Access DB# ___________

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: [illegible] Examiner #: [illegible] Date: [illegible]/01
Art Unit: [illegible] Phone Number 30[illegible] Serial Number: 09/[illegible]
Mail Box and Bldg/Room Location: [illegible] Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: [illegible]
Inventors (please provide full names): Kenneth F. [illegible], [illegible] M. [illegible]kerberg, [illegible]

Earliest Priority Filing Date: 1/5/98

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

claims 27-28 and 13-103 under consideration.

Point of Contact:
Beverly Shears
Technical Info. Specialist
CM1 12C14 Tel: 308-4994

Please also see attached claims + data bib sheet.

Thanks ☺
LV Cook

****

STAFF USE ONLY		**Type of Search**		**Vendors and cost where applicable**	
Searcher:	Beverly 84994	NA Sequence (#)		STN	
Searcher Phone #:		AA Sequence (#)		Dialog	
Searcher Location:		Structure (#)		Questel/Orbit	
Date Searcher Picked Up:		Bibliographic		Dr.Link	
Date Completed:	08-16-01	Litigation		Lexis/Nexis	
Searcher Prep & Review Time:	12	Fulltext		Sequence Systems	
Clerical Prep Time:		Patent Family		WWW/Internet	
Online Time:	46	Other		Other (specify)	

PTO-1590 (1-2000)

(FILE 'CAPLUS' ENTERED AT 09:04:22 ON 16 AUG 2001)

L7 117780 SEA FILE=CAPLUS ABB=ON PLU=ON (ASSAY? OR IMMUNOASSAY?)(10A)(MEAS? OR QUANT? OR DETERM? OR DETECT? OR SCREEN? OR DET## OR MONITOR?)

L8 3094 SEA FILE=CAPLUS ABB=ON PLU=ON L7(S)(APPARAT? OR DEVICE OR EQUIP? OR KIT)

L12 122 SEA FILE=CAPLUS ABB=ON PLU=ON L8(L)(OPTICAL? OR FLUOROMET? OR FLUORO(W)(METER? OR METR?))

L13 31 SEA FILE=CAPLUS ABB=ON PLU=ON L12(L)ANTIBOD?

L14 23 SEA FILE=CAPLUS ABB=ON PLU=ON L13 AND (DYE? OR LABEL? OR STAIN? OR COLLOID? SOL OR SIGNAL OR ENZYME)

L14 ANSWER 1 OF 23 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2001:319588 CAPLUS

DOCUMENT NUMBER: 134:323125

TITLE: Method and device for the determination of mammalian tumor marker MUC-1 using a competitive immunoassay in combination with optical detection in an electric field

INVENTOR(S): Sauer, Markus; Wolfrum, Jurgen

PATENT ASSIGNEE(S): Germany

SOURCE: Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1096257	A2	20010502	EP 2000-123053	20001024

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.: DE 1999-19952160 A 19991029

AB The invention concerns the detn. of the mammalian carcinoma marker MUC-1 by using and immunocomplex that is composed of a carbohydrate-specific monoclonal antibody to MUC-1 and a **dye-labeled** immunogenic epitope of the tandem repeat from MUC-1 that is modified with addnl. lysines; by adding the immunocomplex to the patient's blood serum the MUC-1 in the serum binds to the antibody setting the **dye-labeled** immunogenic epitope free. Due to the pH of the reaction medium and the charges on the components involved in the immunoassay, the carcinoma marker-antibody complex is moving to the cathode while the **dye-labeled** epitope is collected at the anode and detected optically. The measurement is carried out in microtiterplates, electrodes are placed into the wells of the plate.

L14 ANSWER 2 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:199607 CAPLUS
DOCUMENT NUMBER: 133:70833
TITLE: Electrochemical immunoassays
AUTHOR(S): Warsinke, A.; Benkert, A.; Scheller, F. W.
CORPORATE SOURCE: Institute of Biochemistry and Molecular Physiology, University of Potsdam, Luckenwalde, 14943, Germany
SOURCE: Fresenius' J. Anal. Chem. (2000), 366(6-7), 622-634
CODEN: FJACES; ISSN: 0937-0633
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with 105 refs. Immunoassays (IA) use the specific antigen-**antibody** complexation for anal. purposes. RIAs, fluorescence immunoassays (FIA) and **enzyme** immunoassays (EIA) are well established in clin. diagnostics. For the development of hand-held **devices** which can be used for point of care **measurements**, electrochem. **immunoassays** are promising alternatives to existing immunochem. tests. Moreover, for opaque or **optically** dense matrixes electrochem. methods are superior. Potentiometric, capacitive and amperometric transducers have been applied for direct and indirect electrochem. immunoassays. However, due to their fast detection, broad linear range and low detection limit, amperometric transducers are preferred. Competitive and noncompetitive amperometric immunoassays have been developed with redox compds. or **enzymes** as **labels**. This review gives an overview of the most frequently applied principles in electrochem. immunoassays. The potential of an indirect competitive amperometric immunoassay for the detn. of creatinine within nanomolar range and the circumvention of the most serious problem in electrochem. immunoassays, namely regeneration, is discussed.
REFERENCE COUNT: 105
REFERENCE(S): (1) Abdel-Hamid, I; Anal Lett 1999, V32, P1081 CAPLUS
(2) Aizawa, M; Anal Chim Acta 1980, V115, P61 CAPLUS
(4) Bates, D; Trends Biotechnol 1987, V5, P204 CAPLUS
(5) Bauer, C; Anal Chem 1996, V68, P2453 CAPLUS
(6) Bauer, C; Anal Chem 1998, V70, P4624 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 3 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:85097 CAPLUS
DOCUMENT NUMBER: 132:134334

TITLE: Optical disc-based assay devices, cleavable **signal** element reagents and methods
INVENTOR(S): Virtanen, Jorma
PATENT ASSIGNEE(S): Burstein Laboratories, Inc., USA
SOURCE: PCT Int. Appl., 233 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000005582	A2	20000203	WO 1999-US12395	19990720
WO 2000005582	A3	20000629		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6200755	B1	20010313	US 1998-120049	19980721
AU 9950806	A1	20000214	AU 1999-50806	19990720
EP 1097378	A2	20010509	EP 1999-935299	19990720
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.:

US 1998-120049	A	19980721
US 1996-21367	P	19960708
US 1996-30416	P	19961101
US 1997-888935	B2	19970707
US 1997-53229	P	19970721
WO 1999-US12395	W	19990720

AB **Optical** disk-based assay devices and methods are described, in which analyte-specific **signal** elements are disposed on an **optical** disk substrate. In preferred embodiments, the analyte-specific **signal** elements are disposed readably on said disk. Also described are cleavable **signal** elements particularly suitable for use in the assay device and methods. Binding of the chosen analyte simultaneously to a first and a second analyte-specific side member of the cleavable **signal** element tethers the **signal**-responsive moiety to the **signal** element's substrate-attaching end, despite subsequent cleavage at the cleavage site that lies intermediate the first and second side members. The **signal** responsive moiety reflects, absorbs, or refracts incident laser

light. Described are nucleic acid hybridization assays, nucleic acid sequencing, immunoassays, cell counting assays, and chem. detection. Adaptation of the assay **device** substrate to function as an **optical** waveguide permits **assay** geometries suitable for continuous **monitoring** applications. A cleavable **signal** element is claimed having a cleavable spacer with a substrate-attaching end and a **signal**-responsive end and side members binding to sites on an analyte. Synthesis of a cleavable magnesium dicarboxylate spacer reagent recognizing human IgG is described. The reagent has anti-human IgG **antibody** deriv. bound to a gold-coated polycarbonate disk and to latex beads; the latex beads are bound to the disk via the cleavable magnesium dicarboxylate groups. The magnesium dicarboxylate groups are cleaved with EDTA. Latex spheres that have not bound human IgG are removed. The disk is read in an **optical** disk drive. The concn. of human IgG is proportional to the **signal** generated by the latex spheres.

L14 ANSWER 4 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:454283 CAPLUS
DOCUMENT NUMBER: 131:85160
TITLE: Methods for monitoring the status of assays
INVENTOR(S): Buechler, Kenneth F.; Anderberg, Joseph M.; McPherson, Paul H.
PATENT ASSIGNEE(S): Biosite Diagnostics, Inc., USA
SOURCE: PCT Int. Appl., 149 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9935602	A1	19990715	WO 1999-US261	19990104
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6194222	B1	20010227	US 1998-3065	19980105
AU 9921066	A1	19990726	AU 1999-21066	19990104
EP 1046122	A1	20001025	EP 1999-901345	19990104
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,				

PT, IE, FI
PRIORITY APPLN. INFO.: US 1998-3065 A 19980105
WO 1999-US261 W 19990104

AB The invention relates in part to the use of independent assay controls (IACs) for the **optical** communication between an **assay device** and an instrument in **monitoring** and performing **assays**, preferably **immunoassays**. Prepn. of fluorescent energy transfer latex with bovine serum albumin and **antibody** conjugates and their application in cardiac marker detn. are described.

REFERENCE COUNT: 2
REFERENCE(S): (1) Memorial Hospital; WO 9709678 A 1997
(2) Syn Tek Ab; EP 0153283 A 1985 CAPLUS

L14 ANSWER 5 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:703799 CAPLUS
DOCUMENT NUMBER: 129:287401
TITLE: Metal nano clusters as transducers for bioaffinity interactions
AUTHOR(S): Schalkhammer, Thomas
CORPORATE SOURCE: Inst. Biochemie Molekulare Zellbiologie, Oesterreichische Akad. Wissenschaften, Univ. Wien, Vienna, A-1030, Austria
SOURCE: Monatsh. Chem. (1998), 129(10), 1067-1092
CODEN: MOCMB7; ISSN: 0026-9247
PUBLISHER: Springer-Verlag Wien
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB Metal clusters excited by electromagnetic radiation exhibit high local field enhancement and nanoscale resonant behavior. A review with 25 refs. is given. Absorptive properties of these metal clusters bound to a surface are the basis of various new and highly promising setups to transduce biorecognitive interactions into an **optical signal**. Immunogold **labeling** and immunogold chromatog. as well as SPR transduction of metal cluster binding have been successfully commercialized. Multilayered highly resonant systems have been proposed and recently realized employing a metal mirror, a polymer distance layer, a biomol. interaction layer, and biorecognitively bound metal nano clusters. Expts. indicate a strong influence of cluster symmetry and cluster shell on the strong reflection min. induced by the resonant behavior. Modified clusters, clearly exhibit at least one addnl. narrow reflection min. in the red or IR region and therefore far away from spherical gold colloids (<520 nm). Glass-type metal clusters synthesized by interruption of the thermal step of Au3+-redn. as well as metal-dielec. shell clusters synthesized by multiple shell deposition processes enables the shift to a near-mid IR resonance. It is possible to convert directly (without use of addnl. anal.

steps) biorecognitive binding processes and catalytic activity of proteins by the application of surface enhanced clusters into a visible **optical signal** (color change of sensor surface). Disposable single step **assays** as well as multiuse-**monitoring devices** have been established employing e.g. lectin-sugar, antigen-**antibody**, protein-receptor, or DNA-DNA interactions.

L14 ANSWER 6 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:293652 CAPLUS
DOCUMENT NUMBER: 129:2413
TITLE: Methods and devices for mass transport assisted optical assays
INVENTOR(S): Drewes, Joel A.; Bogart, Gregory R.; Etter, Jeffrey B.; Steaffens, Jeffrey W.; Ostroff, Rachel M.; Crosby, Mark
PATENT ASSIGNEE(S): Biostar, Inc., USA
SOURCE: PCT Int. Appl., 64 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9818962	A1	19980507	WO 1997-US19043	19971020
W: AU, CA, CN, ID, JP, KR				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9749129	A1	19980522	AU 1997-49129	19971020
AU 732463	B2	20010426		
EP 935673	A1	19990818	EP 1997-911850	19971020
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CN 1244219	A	20000209	CN 1997-180907	19971020
JP 2001503862	T2	20010321	JP 1998-520567	19971020

PRIORITY APPLN. INFO.: US 1996-742255 A 19961031
US 1997-950963 A 19971015
WO 1997-US19043 W 19971020

AB An optical assay device for the detection of an analyte of interest in a sample comprising a support contg. channels, an optically functional layer positioned on the support such that the optically functional layer and the support allow for laminar flow of the sample through layers of the device, an attachment layer positioned on the optically functional layer, and an analyte specific receptive layer positioned on the attachment layer. The device can be used to detect biomols., herbicides, inorg. and org. compds., microorganisms

and fragments derived from microorganisms, environmental agents.

L14 ANSWER 7 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1997:378244 CAPLUS
DOCUMENT NUMBER: 126:350932
TITLE: Device and method for producing a modular microsystem for high-accuracy rapid chemical analysis
INVENTOR(S): Cammann, Karl
PATENT ASSIGNEE(S): Cammann, Karl, Germany
SOURCE: Ger. Offen., 28 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19545130	A1	19970605	DE 1995-19545130	19951204
DE 19545130	C2	20010517		
WO 9721095	A2	19970612	WO 1996-DE2351	19961204
WO 9721095	A3	19970710		

W: JP, US
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRIORITY APPLN. INFO.: DE 1995-19545130 A 19951204

AB A new class of simple and praiseworthy rapid microchem. tests (in the form of a flexible, applications-oriented, modular microsystem) is presented. It rests upon the principle of a position-resolved, mass anal., socalled incremental titrn. with preferably **optical** equivalence point reading. The concn. detn. of a specific analyte takes place by means of parallel-titrns. (reactions) in a titrn.-module of sample aliquots from a sampling module in several sep. or connected micro-reaction chambers with known titers (content of a measured soln.). The actual sample concn. is read on a dial, in which the equivalence point between two micro-reactors or in the microchannel is exceeded, and thereby a clearly visible sudden color change of an analyte-sensitive indicator occurs. Disturbance-susceptible color-intensity measurements are done away with. Any analyte in liq. or gaseous samples (passive-receiver principle) can be detd. rapidly and with high-accuracy on a socalled "lab. on a chip", produced by photolithog. (by LIGA or Si technol.). Examples are given of a modular **device** with electrochem. readings, the accurate detn. of acid or base concns. by using a single reactor, the abs. series of detns. of acids and bases by titrn. in reaction channels, detn. of an analyte with redox properties by 2-dimensional redox

titrn., detn. of inorg. phosphate by pptn. of Al phosphate in a system configuration with a pptn. reactor, detn. of heavy metals (e.g. Cd) or fluorine by complexometric titrn., **detn.** of an **antibody**-antigen pair in a microchannel column, **immunoassay** with **enzyme**-tagging in ELISA system configuration, **detn.** of COD values and total org. carbon values with a special applications-specific system configuration, water detn. by a Karl-Fischer method using a special solvent-resistant system configuration, an abs. reading biosensor for glucose using an **enzyme** reactor, and a quant. gas dosimeter (passive-sample-receiver) using a special gas-diffusion receiver.

L14 ANSWER 8 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1996:650776 CAPLUS
DOCUMENT NUMBER: 125:322175
TITLE: A simple, rapid immunometric assay for determination of functional and growth hormone-occupied growth hormone-binding protein in human serum
AUTHOR(S): Fisker, S.; Frystyk, J.; Skriver, L.; Vestbo, E.; Ho, K. K. Y.; Oerskov, H.
CORPORATE SOURCE: Department Endocrinology and Diabetes, Aarhus Kommunehospital, Aarhus, DK-8000, Den.
SOURCE: Eur. J. Clin. Invest. (1996), 26(9), 779-785
CODEN: EJCIB8; ISSN: 0014-2972
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We present a sensitive time-resolved **fluorometric** immunofunctional **assay** (TR-FIA) for direct **quantitation** of functional growth hormone-binding protein (GHBP), using an **immunoassay kit** for growth hormone (GH-DELFIA). In addn. to the immobilized GH **antibody**, one monoclonal **antibody** against GHBP was used. This anti-GHBP was **labeled** with the chelate of europium. The assay was performed in one step. The detection limit for GHBP was 0.044 nmol L-1 (NBS + 3 SD). The calibration curve was linear in the interval 0.11-8.03 nmol L-1. Av. intra-assay coeff. of variation (CV) was 3.44%. Av. interassay CV at GHBP concns. 0.563 nmol L-1 and 1.40 nmol L-1 were 12% and 6.3% resp. Anal. recovery in serum ranged from 76% to 127% with a mean of 101%. Serum GHBP in 102 normal subjects ranged from 0.513 to 3.772 nmol L-1 and was pos. related to body mass index. In growth hormone-deficient sera GHBP was higher than in control subjects (1.751 nmol L-1 and 1.257 nmol L-1, resp.). Acromegalic patients had lower levels of GHBP than controls (0.946 and 1.234 nmol L-1, resp.). This assay also allowed detection of GH-complexed GHBP in serum. These results were in agreement with theor. values calcd.

from the measured GH and the functional GHBP concns. Results were compared with data obtained by a recently reported, validated ligand immunofunctional assay (LIFA), which is fundamentally different. There was a significant linear relationship between the results from the two assays (r = 0.89). The slope of the regression line was 0.65. In conclusion, this new convenient GHBP TR-FIA provides a sensitive and precise method for detecting total GHBP as well as complexed GHBP in human serum, and allows easy processing of large nos. of samples.

L14 ANSWER 9 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1996:546598 CAPLUS
DOCUMENT NUMBER: 125:242354
TITLE: Methods for production of an optical assay device
INVENTOR(S): Bogart, Gregory R.
PATENT ASSIGNEE(S): Biostar, Inc., USA
SOURCE: U.S., 69 pp. Cont.-in-part of U.S. Ser. No. 923,270,abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 14
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5550063	A	19960827	US 1993-76347	19930610
AU 9179004	A1	19921021	AU 1991-79004	19910320
AU 653940	B2	19941020		
EP 539383	A1	19930505	EP 1991-910056	19910320
EP 539383	B1	19960918		
R: BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE				
JP 05506936	T2	19931007	JP 1991-509344	19910320
ES 2094224	T3	19970116	ES 1991-910056	19910320
EP 1122539	A2	20010808	EP 2001-111726	19920211
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC				
EP 1122540	A2	20010808	EP 2001-111727	19920211
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC				

PRIORITY APPLN. INFO.:
US 1991-653064 B2 19910211
US 1992-923270 B2 19920731
EP 1991-910056 A 19910320
WO 1991-US1781 A 19910320
EP 1992-906299 A3 19920211

AB Methods are disclosed for producing an optical assay device having a substrate and .gtoreq.1 optical layers, an attachment layer and a receptive layer, including the step of spin coating an anti-reflective layer or an attachment layer. The devices may be

used for the detection of, e.g., Streptococcus, Chlamydia, respiratory syncytial virus, human immunodeficiency virus, hepatitis virus, etc. by immunoassay methods.

L14 ANSWER 10 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1995:305533 CAPLUS
DOCUMENT NUMBER: 122:76016
TITLE: Automated fluorescence apparatus for methamphetamine detection
INVENTOR(S): Nakayama, Hiroshi; Myazaki, Kimimasa; Mitsumata, Tadayasu
PATENT ASSIGNEE(S): Matsushita Electric Ind Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06300760	A2	19941028	JP 1993-88316	19930415
JP 3127660	B2	20010129		

AB Disclosed is a computer-controlled fluorescence app. for detn. of trace amt. of methamphetamine and its derivs. The anal. is an immunoassay based on the increase of fluorescence intensity upon binding of the monoclonal anti-methamphetamine antibody and an antigen-like **dye** (structure given).

L14 ANSWER 11 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1994:239633 CAPLUS
DOCUMENT NUMBER: 120:239633
TITLE: Devices and methods for detection of an analyte based upon light interference
INVENTOR(S): Bogart, Gregory R.; Moddel, Garret R.; Maul, Diana M.; Etter, Jeffrey B.; Crosby, Mark; Miller, John B.; Blessing, James; Kelley, Howard; Sandstrom, Torbjorn; Stiblert, Lars
PATENT ASSIGNEE(S): Biostar, Inc., USA
SOURCE: PCT Int. Appl., 208 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 14
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 9403774	A1	19940217	WO 1993-US5673	19930610
W: AT, AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9179004	A1	19921021	AU 1991-79004	19910320
AU 653940	B2	19941020		
EP 539383	A1	19930505	EP 1991-910056	19910320
EP 539383	B1	19960918		
R: BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE				
JP 05506936	T2	19931007	JP 1991-509344	19910320
ES 2094224	T3	19970116	ES 1991-910056	19910320
JP 07509565	T2	19951019	JP 1993-505280	19930610
EP 727038	A1	19960821	EP 1993-915341	19930610
R: ES, FR, GB, IT, SE				

PRIORITY APPLN. INFO.:	US 1992-924343	A	19920731
	EP 1991-910056	A	19910320
	WO 1991-US1781	A	19910320
	WO 1993-US5673	W	19930610

AB Methods for analyzing an **optical** surface for an analyte of interest in a test sample and related instruments/devices are disclosed. The method entails the use of a thin-film **optical immunoassay device** whereby an analyte of interest is **detected** in a test sample through spectral changes in the light impinging on the surface prior to and after the binding of the analyte to a reactive substrate layer(s). The device includes a substrate which has a 1st color in response to light impinging thereon. The substrate also exhibits a 2nd color which is different from the 1st color. The 2nd color is exhibited in response to the same light when the analyte is present on the surface. Thus, SiO was vapor deposited on a polished monocryst. Si wafer to a thickness of 550 .ANG.; the film had a golden interference color. The film was activated with N-(2-aminoethyl)-3-aminopropyltrimethoxysilane, coated with a DNP-albumin conjugate to a thickness of 40.ANG., rinsed, and dried. The coated wafer was used in a competitive immunoassay for DNP using goat anti-DNP **antibody** and an ellipsometer to measure the change in mass at the surface from the change in light intensity.

L14 ANSWER 12 OF 23 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER:	1993:599155 CAPLUS
DOCUMENT NUMBER:	119:199155
TITLE:	Method and apparatus for the rapid detection of analytes involving specific binding reactions and the use of light-attenuating magnetic particles
INVENTOR(S):	Slovacek, Rudolf E.; Harvey, Michael A.
PATENT ASSIGNEE(S):	USA
SOURCE:	U.S., 9 pp.

CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5242837	A	19930907	US 1990-632991	19901224

AB Disclosed are an **optical app.** and a uniaxial method for rapidly **measuring** spectroscopically **labeled** specific binding analytes in a reaction **assay** mixt. that contains unbound **label** without requiring the phys. sepn. of the unbound **label** from the reaction mixt. or sequential reagent addns. and incubations. The technique is equally applicable to measurements in serum or whole blood. The method involves the placement of **labeled** analyte complexes onto or adjacent to the surface of the **optically** transparent member of a sample device to form a specific **signal** generating layer; the use of a light-attenuating barrier on top of or as part of the **labeled** analyte complexes; and the detection of a **signal** radiation along the axis of excitation of the **label**. Various embodiments of the technique make use of light-attenuating particles. Diagrams of devices which can be employed in the methodol. are presented, including one with an attached or molded lens. A schematic of a front-faced fluormetric app. for obtaining the measurements is also shown. In one example, an assay mixt. contg. paramagnetic particle-immobilized goat anti-mouse **antibodies**, mouse **antibody** stds. [(5.0-320.0) x 10-12 M], and phycoerythrin-conjugated goat anti-mouse **antibody** was incubated and the paramagnetic particulate phase sepd., rinsed, deposited on the bottom of a com. 1/2 well tissue culture plate, and read with the fluorom. app. Other examples include e.g. a sandwich immunoassay for IgE in whole blood.

L14 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1993:467251 CAPLUS
DOCUMENT NUMBER: 119:67251
TITLE: Highly sensitive optical immunoassay using **enzyme-labeled** reagents
INVENTOR(S): Maul, Diana M.; Crider, Debbie G.; Bilodeau, Robert J.; Bogart, Gregory R.
PATENT ASSIGNEE(S): Biostar, Inc., USA
SOURCE: Can. Pat. Appl., 37 pp.
CODEN: CPXXEB
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 14
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2078897	AA	19930325	CA 1992-2078897	19920923
AU 9179004	A1	19921021	AU 1991-79004	19910320
AU 653940	B2	19941020		
EP 539383	A1	19930505	EP 1991-910056	19910320
EP 539383	B1	19960918		
R: BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE				
JP 05506936	T2	19931007	JP 1991-509344	19910320
ES 2094224	T3	19970116	ES 1991-910056	19910320
EP 546222	A1	19930616	EP 1991-308968	19911001
EP 546222	B1	19970910		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
AT 158080	E	19970915	AT 1991-308968	19911001
ES 2109258	T3	19980116	ES 1991-308968	19911001
US 5955377	A	19990921	US 1995-403565	19950417

PRIORITY APPLN. INFO.:

EP 1991-308968	A	19911001
US 1991-653052	A2	19910211
EP 1991-910056	A	19910320
WO 1991-US1781	A	19910320
US 1992-923090	B2	19920731
US 1993-75693	B1	19930610

AB A thin-film optical immunoassay device is disclosed which comprises a solid support substrate having an upper and lower surface, an unlabeled ligand antibody layer bound to the substrate, .gtoreq.1 layer comprising an immobilized **enzyme** conjugate, complexed with an analyte of interest and capable of further interacting with an **enzyme**-reactive delivery substance to form an insol. reaction product. The **enzyme** conjugate layer and the unlabeled antibody layer have a measurable increased mass change, the mass capable of pptn. by a pptg. agent applied as a substrate thereover. Also provided are a corresponding process for detection of an analyte in a medium and a diagnostic test kit for a thin-film optical immunoassay. The invention overcomes the limitations imposed by the prior art use of particulate reagent enhancers. By the use of **enzyme**-antibody conjugates in place of latex-reagent particles, even more highly sensitive optical thin-film assays can be obtained, particularly with selected substrates for the **enzyme** which provide insol. pptd. products. The invention relates to the use of such **enzyme** -**labeled** antibody methods in thin-film assays for the detection of low levels of the polysaccharide antigens derived from the group of bacteria commonly responsible for bacterial infections in man, e.g. streptococcus. Thus, a conjugate of peroxidase with

Igs from antisera against Neisseria meningitidis (A, C, Y, W135) was dild. in casein-contg. buffer and mixed with an equal vol. of a diln. of a cell-free filtrate from a culture of Neisseria meningitidis. The mixt. was pipeted onto the surface of a silicon wafer already coated with layers of silicon nitride, t-polymer siloxane, and purified Ig from the same anti-N. meningitidis antiserum. TMBlue was used as pptg. substrate; the ppt. was read by eye and by ellipsometer to confirm the presence of N. meningitidis. Visually, a 1:20,000 diln. of antigen was clearly resolved from the neg.; a com. kit's sensitivity cut-off is a 1+ at a 1:4000 diln. of the same antigen prepn.

L14 ANSWER 14 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:556927 CAPLUS
DOCUMENT NUMBER: 115:156927
TITLE: A homogenous Fourier transform attenuated total reflectance interferometric immunoassay system for antibody or antigen determination
INVENTOR(S): Ismail, Ashraf A.
PATENT ASSIGNEE(S): Royal Institution for the Advancement of Learning, Can.
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9104489	A1	19910404	WO 1990-CA309	19900920
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
AU 9064264	A1	19910418	AU 1990-64264	19900920
US 5578499	A	19961126	US 1994-231977	19940421
PRIORITY APPLN. INFO.:			US 1989-409788	19890920
			WO 1990-CA309	19900920
			US 1992-875802	19920430

AB A homogeneous **immunoassay** system is provided for the **detn.** of an **antibody** or an antigen in a sample which consists of an interferometric **signal** from an **optical** source, a waveguide coated with an **antibody** or an antigen and having .gtoreq.1 region immersed in a soln. contg. a sample, whereby the corresponding antigen or **antibody** can be complexed on the waveguide, a detector adapted to measure the interferometric **signal** after its propagation through the waveguide, and a measuring **device** to take the Fourier transform of the interferometric **signal** for detn. the

degree of attenuation of the interferometric **signal** at a wavelength corresponding to an absorption characteristic of the antigen-**antibody** complex or of a **label** incorporated into the antigen-**antibody** complex, whereby detg. the amt. of antigen or **antibody** in the sample. Multiple analytes can be detd. in a single test. The system of the invention was used to detn. anti-bovine serum albumin **antibody** and bovine serum albumin with different **labels**.

L14 ANSWER 15 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:554516 CAPLUS
DOCUMENT NUMBER: 115:154516
TITLE: Automated method and device for performing solid-phase diagnostic immunoassay
INVENTOR(S): Khalil, Omar S.; Huff, Denise G.; Hanna, Charles F.; Zurek, Thomas F.
PATENT ASSIGNEE(S): Abbott Laboratories, USA
SOURCE: Eur. Pat. Appl., 25 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 424633	A2	19910502	EP 1990-116379	19900827
EP 424633	A3	19920923		
EP 424633	B1	19960117		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL				
US 5244630	A	19930914	US 1989-425651	19891023
CA 2021587	AA	19910424	CA 1990-2021587	19900719
AU 9059848	A1	19910426	AU 1990-59848	19900725
AU 639703	B2	19930805		
AT 133263	E	19960215	AT 1990-116379	19900827
ES 2084629	T3	19960516	ES 1990-116379	19900827
JP 03160981	A2	19910710	JP 1990-283239	19901019
JP 2515428	B2	19960710		

PRIORITY APPLN. INFO.: US 1989-425651 19891023
US 1988-184726 19880422

AB A disposable device suitable for performing automated solid-phase diagnostic immunoassays is provided which employs microparticles to complex an analyte and where the microparticle complex becomes retained and immobilized on a fibrous matrix such that the presence of analyte on the microparticles can be detected by **optical** means. A **device** is disclosed having a sample well for receiving a sample and reagents for forming a reaction mixt., a read

well comprising (a) an entrance port and holding means for receiving and holding a **quantity** of sample and **assay** reagents, (b) a fibrous matrix for retaining and immobilizing microparticle/analyte complexes for detection, said fibrous matrix positioned below said holding means, and having an av. spatial sepn. of fibers greater than the av. diam. of said microparticles, (c) means positioned below said fibrous matrix for assisting the flow of sample and assay reagents through said fibrous matrix, such as an absorbent material or vacuum below said fibrous matrix, (d) means for creating a substantially light-tight seal surrounding the well, (e) means for venting air entrapped in the absorbent material and which is displaced by fluids absorbed therein, and (f) passage means communicating between the sample well and the read well whereby sample and reaction mixts. can be transferred and washed from said sample well into said read well without being contacted by any **app**. Diagrammatic views of the device are presented. This method (device) is used in a microparticle-capture competitive binding assay of e.g. anti-hepatitis B core **antibody** using acridinium sulfonamide-**labeled antibody** to hepatitis B core antigen and carboxylated polystyrene microparticles coupled to **antibody** to hepatitis B core antigen as undercoat and then with recombinant hepatitis B core antigen.

L14 ANSWER 16 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:510020 CAPLUS
DOCUMENT NUMBER: 115:110020
TITLE: Fluorometer-based apparatus and method for **enzyme** fluoroimmunoassay of antigens or antibodies in blood
INVENTOR(S): Iwasaki, Osamu
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03120466	A2	19910522	JP 1989-258536	19891003
JP 2525678	B2	19960821		
JP 03120465	A2	19910522	JP 1989-257423	19891002
US 5032730	A	19910716	US 1990-591181	19901001

PRIORITY APPLN. INFO.: JP 1989-257423 19891002
JP 1989-258536 19891003

AB In a fluorometer-based app. for immunoassay based on reaction of test antigen or antibody with resp. antibody or antigen

labeled with an **enzyme** that converts 4-methylumbelliferyl phosphate to 4-methylumbelliferone for fluorometric detn. of the test antigen or antibody (fixed on a slide), the slide is irradiated with excitation light at 370-375 nm and having .DELTA..lambda.(1/10) value of <5 nm [.DELTA..lambda.(1/10) = the wavelength region having a strength 1/10 that of the central spectrum] and the emitted fluorescence d. is measured using a filter for a fluorescent light having a central permeation wavelength of 460 nm and .DELTA..lambda.(1/10) value of <10 nm to facilitate the anal. A diagrammatic view of the app. is presented. The fluorescent light of 4-methylumbelliferyl phosphate or the Raman scattering light does not interfere with the method.

L14 ANSWER 17 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:20621 CAPLUS
DOCUMENT NUMBER: 114:20621
TITLE: Optical waveguide fluorescence energy transfer method, device, and kit, and use of the method and device for immunoassay of human chorionic gonadotropin
INVENTOR(S): Flanagan, Michael Thomas; Ashworth, Robert Heddle
PATENT ASSIGNEE(S): Ares-Serono Research and Development Ltd. Partnership, USA
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8909408	A1	19891005	WO 1989-GB320	19890328
W: AU, JP, NO, US				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
AU 8933618	A1	19891016	AU 1989-33618	19890328
AU 632477	B2	19930107		
EP 359807	A1	19900328	EP 1989-904182	19890328
EP 359807	B1	19941117		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 03501294	T2	19910322	JP 1989-503799	19890328
JP 2571971	B2	19970116		
CA 1332206	A1	19941004	CA 1989-594929	19890328
NO 8904744	A	19900126	NO 1989-4744	19891128
NO 176293	B	19941128		
NO 176293	C	19950308		

PRIORITY APPLN. INFO.: GB 1988-7488 19880329

WO 1989-GB320 19890328

AB The title method comprises (1) incubating a sample with a reagent X **labeled** with a 1st energy acceptor, a reagent Y immobilized on the surface of an **optical** waveguide, a 2nd energy acceptor immobilized on or in the **optical** waveguide, and optionally .gtoreq.1 further energy acceptor on or in the waveguide; (2) irradiating the waveguide with radiation of a wavelength suitable for excitation of the donor fluorophore; and (3) detecting or detg. resonance energy transfer between 1st and 2nd, or 2nd and 1st, energy acceptors. One of reagents X and Y is a specific binding partner to the ligand, and the other is either a ligand analog or a specific binding partner of the ligand. One of the 1st and 2nd energy acceptors is the donor fluorophore, the electronic emission spectrum of which overlaps with the electronic absorption spectrum of the other of the acceptors. Either the irradn. of step (2) occurs by the evanescent field produced by the radiation propagating along the waveguide or/and the detection step (3) uses evanescent field coupling into the waveguide of the fluorescence of the 1st or (if any) of the 2nd energy acceptor. Also provided are a kit and device for such assays. Thus, glass waveguides were prepd., activated, and washed with a coupling agent; avidin was then coupled to the glass surface using std. techniques. A monoclonal **antibody** (MAb) to human chorionic gonadotropin (hCG) was conjugated with a biotin-R-phycoerythrin conjugate; a 2nd MAb to hCG was conjugated with allophycocyanin. A sandwich **immunoassay** for hCG **detn.** using the above MAbs, waveguide, and **app.** is described.

L14 ANSWER 18 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1989:420536 CAPLUS
DOCUMENT NUMBER: 111:20536
TITLE: Assay apparatus and use thereof in solid phase immunoassays
INVENTOR(S): Bunce, Roger Abraham; Gibbons, John Edwin Charles; Matthews, Jayne Alison; Burn, Catherine Ann; Kricka, Larry Jan
PATENT ASSIGNEE(S): United Kingdom Secretary of State for Social Services, London, UK
SOURCE: PCT Int. Appl., 64 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8807679	A1	19881006	WO 1988-GB229	19880325

W: AU, GB, JP, NO, US
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE

AU 8814923	A1	19881102	AU 1988-14923	19880325
AU 606937	B2	19910221		
EP 357625	A1	19900314	EP 1988-902879	19880325
EP 357625	B1	19920108		

R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE

JP 02502754	T2	19900830	JP 1988-502697	19880325
AT 71460	E	19920115	AT 1988-902879	19880325
NO 8805232	A	19890126	NO 1988-5232	19881124
NO 175169	B	19940530		
NO 175169	C	19940907		
GB 2228085	A1	19900815	GB 1989-20303	19890908
GB 2228085	B2	19910724		

PRIORITY APPLN. INFO.:	GB 1987-7299	19870326
	EP 1988-902879	19880325
	WO 1988-GB229	19880325

AB An **assay app.** for **detection** of an analyte suspected of being immobilized on an active surface portion of a solid substrate comprises (a) a substrate housing for retaining the substrate at .gtoreq.1 predetd. positions; (b) a 1st reagent transfer means for transferring a solubilized reagent to the substrate surface when it is held at 1 of the predetd. positions, the reagent reacting with the analyte or surface to produce a **signal**, either directly or in the presence of a **signal** stimulant; and (c) a substrate wiping means, being movable relative to the substrate, arranged to make contact with all or part of the substrate surface before and/or after 1st reagent transfer. PVC strips coated with anti-human chorionic gonadotropin (anti-HCG) on one end were soaked in phosphate buffered saline/Tween (PBST) contg. 0.2% bovine serum albumin, washed in PBST, dried, and inserted (**antibody** end) into a holder under a sample pad. Sample (HCG dilns.) was added to the pad, and after 20 min incubation at room temp, the strip was pushed under a wiper pad to the 1st reagent pad, where horseradish peroxidase-anti-HCG conjugate was added. The strip was then pushed under a 2nd wiper pad to the 2nd reagent pad, where 2nd reagent (luminol 1.25, H2O2 2.7, p-iodophenol 0.136 mM in 0.1M Tris, pH 8.6) was added. Light output was measured after 1 min through an **optical** window by a measuring app. (described by diagram in patent).

L14 ANSWER 19 OF 23 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER:	1989:169821 CAPLUS
DOCUMENT NUMBER:	110:169821
TITLE:	Laser magnetic immunoassay method and apparatus therefor
INVENTOR(S):	Fujiwara, Koichi; Noda, Juichi; Mizutani, Hiromichi; Mizutani, Hiroko

PATENT ASSIGNEE(S): Nippon Telegraph and Telephone Public Corp., Japan
SOURCE: PCT Int. Appl., 176 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8802118	A1	19880324	WO 1987-JP694	19870922
W: US				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
JP 63079070	A2	19880409	JP 1986-224567	19860922
JP 07111429	B4	19951129		
JP 63106559	A2	19880511	JP 1986-252427	19861023
JP 63108265	A2	19880513	JP 1986-254164	19861025
JP 2502546	B2	19960529		
JP 63188766	A2	19880804	JP 1987-22062	19870202
JP 63188764	A2	19880804	JP 1987-22063	19870202
JP 63315951	A2	19881223	JP 1987-152791	19870619
JP 07122636	B4	19951225		
JP 63315952	A2	19881223	JP 1987-152792	19870619
JP 2509227	B2	19960619		
JP 01029768	A2	19890131	JP 1987-184902	19870724
JP 08020450	B4	19960304		
EP 287665	A1	19881026	EP 1987-906109	19870922
EP 287665	B1	19960731		
R: DE, FR, GB, NL, SE				
JP 01272968	A2	19891031	JP 1988-102912	19880426
JP 07050112	B4	19950531		
JP 01272971	A2	19891031	JP 1988-102915	19880426
JP 07111432	B4	19951129		
US 5252493	A	19931012	US 1988-221248	19880722
US 5238810	A	19930824	US 1992-915022	19920715

PRIORITY APPLN. INFO.:

JP 1986-224567	19860922
JP 1986-252427	19861023
JP 1986-254164	19861025
JP 1987-22062	19870202
JP 1987-22063	19870202
JP 1987-152791	19870619
JP 1987-152792	19870619
JP 1987-184902	19870724
JP 1988-102912	19880426
JP 1988-102915	19880426
WO 1987-JP694	19870922
US 1988-221248	19880722

Searcher : Shears 308-4994

US 1989-326963 19890322

AB A method for laser magnetic immunoassay comprises: (1) **labeling** an antigen or **antibody** with magnetic ultramicroparticles and subjecting a test sample and the **labeled** immunogenic substance to an antigen-**antibody** reaction, (2) sepg. and removing unreacted magnetic-**labeled** antigen or **antibody**, (3) dispersing the complex in a soln., (4) applying a laser beam to the soln., and (5) measuring the reflected laser beam light. The assay is performed with an app. comprising a specimen container for storing the **labeled** specimen, dispersion means for guiding and dispersing the specimen, a laser beam-radiating **optical** system for guiding laser beams into the specimen container, and light reception means to receive the scattered light. Use of the laser magnetic **immunoassay app.** for **detection** of influenza virus in clin. samples is given as an example.

L14 ANSWER 20 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1987:550788 CAPLUS
DOCUMENT NUMBER: 107:150788
TITLE: Laminated test strip for biospecific binding assays
INVENTOR(S): Greenquist, Alfred C.
PATENT ASSIGNEE(S): Miles Laboratories, Inc. , USA
SOURCE: Pat. Specif. (Aust.), 54 pp.
CODEN: ALXXAP
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
AU 556852	B1	19861120	AU 1986-60216	19860716
US 4806311	A	19890221	US 1985-770076	19850828
IL 78478	A1	19901105	IL 1986-78478	19860411
CA 1267081	A1	19900327	CA 1986-506751	19860415
ZA 8603752	A	19870128	ZA 1986-3752	19860520
NO 8603249	A	19870302	NO 1986-3249	19860812
EP 212603	A2	19870304	EP 1986-111379	19860818
EP 212603	A3	19881130		
EP 212603	B1	19910619		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 64658	E	19910715	AT 1986-111379	19860818
DK 8604055	A	19870301	DK 1986-4055	19860826
FI 8603454	A	19870301	FI 1986-3454	19860826
JP 62050664	A2	19870305	JP 1986-199204	19860827
ES 2001891	A6	19880701	ES 1986-1406	19860827

PRIORITY APPLN. INFO.: US 1985-770076 19850828
EP 1986-111379 19860818

AB A multizone test **device** for the specific binding **assay detn.** of an analyte in a liq. test medium comprises a reagent zone comprising a solid, porous matrix bearing immobilized analyte, its analog, or binding partner and a detection zone comprising a solid, porous matrix for receiving and measuring **labeled** reagent which migrates into the zone and bearing an immobilized form of .gtoreq.1 component of the detectant compn. Preferably the binding partner of the ligand moiety-contg. **labeled** reagent is a protein and the ligand moiety is an **antibody** or its fragment, hepten, carbohydrate, lectin, biotin, or avidin. An immobilized anti-digoxin **antibody** fragment-biotin-rhodamine **dye** system was prepd. and used to test normal human serum spiked with .ltoreq.5 nM digoxin. An 80-.mu.L aliquot was typically used for anal. with a **fluorometer** (no quant. data).

L14 ANSWER 21 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1987:550754 CAPLUS
DOCUMENT NUMBER: 107:150754
TITLE: Multizone analytical element
INVENTOR(S): Greenquist, Alfred C.
PATENT ASSIGNEE(S): Miles Laboratories, Inc. , USA
SOURCE: Pat. Specif. (Aust.), 56 pp.
CODEN: ALXXAP
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
AU 556853	B1	19861120	AU 1986-61845	19860826
US 4806312	A	19890221	US 1985-770237	19850828
IL 78407	A1	19900726	IL 1986-78407	19860402
CA 1276877	A1	19901127	CA 1986-505703	19860402
ZA 8603086	A	19861230	ZA 1986-3086	19860424
NO 8603250	A	19870302	NO 1986-3250	19860812
NO 166818	B	19910527		
NO 166818	C	19910904		
EP 212599	A2	19870304	EP 1986-111374	19860818
EP 212599	A3	19870819		
EP 212599	B1	19911030		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 69110	E	19911115	AT 1986-111374	19860818
DK 8604056	A	19870301	DK 1986-4056	19860826
DK 164943	B	19920914		

DK 164943	C	19930201		
FI 8603455	A	19870301	FI 1986-3455	19860826
FI 87695	B	19921030		
FI 87695	C	19930210		
JP 62050663	A2	19870305	JP 1986-199203	19860827
JP 05021509	B4	19930324		
ES 2001892	A6	19880701	ES 1986-1407	19860827
PRIORITY APPLN. INFO.:			US 1985-770237	19850828
			EP 1986-111374	19860818

AB A multizone test **device** for the specific binding **assay detn.** of an analyte in a liq. test medium comprises a reagent zone comprising a solid, porous matrix bearing immobilized analyte, its analog, or binding partner and a detection zone comprising a solid, porous matrix for receiving and measuring **labeled** reagent which migrates into the zone and bears an immobilized form of .gtoreq.1 component of the detectant compn. The app. is operable for **fluorometric** or chemiluminescent assays. An immobilized anti-digoxin **antibody** fragment-.beta.-galactosidase system was made and used to test normal human serum spiked with .ltoreq.5 nM digoxin. An 80-.mu.L aliquot was typically used for anal. by a reflectance photometer (no quant. data).

L14 ANSWER 22 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1987:172458 CAPLUS
DOCUMENT NUMBER: 106:172458
TITLE: Optical assay
INVENTOR(S): Stewart, William James
PATENT ASSIGNEE(S): Plessey Co. PLC, UK
SOURCE: Brit. UK Pat. Appl., 7 pp.
CODEN: BAXXDU
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 2173895	A1	19861022	GB 1986-8449	19860407
GB 2173895	B2	19890621		
US 4877747	A	19891031	US 1986-848679	19860404
EP 202021	A2	19861120	EP 1986-302651	19860410
EP 202021	A3	19890524		
R: AT, BE, CH, DE, FR, IT, LI, LU, NL, SE				
JP 61292045	A2	19861222	JP 1986-83987	19860411
JP 05002181	B4	19930111		
PRIORITY APPLN. INFO.:			GB 1985-9492	19850412

AB In an **optical** assay app. comprising an **optical**

waveguide and a coating sensitized to a specific assay species, the light **signal** response is enhanced by coupling a resonant metallic medium to the waveguide and to the sensitized coating. A transparent buffer layer with a metal coating may be interposed between the waveguide and the sensitized coating. Alternatively, a metalized **optically** matched grating can be used in place of the buffer layer or the metallic medium can be of particulate form, each particle having a sensitized coating. Application of the **app**. to **immunoassays**, such as **detection** of **antibodies**, antigens, or hormones in blood samples, pollution monitoring, and monitoring of clin. diagnostic reactions, such as those of **enzymes**, is indicated.

L14 ANSWER 23 OF 23 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1984:188404 CAPLUS
DOCUMENT NUMBER: 100:188404
TITLE: Device for determining a biological compound and its use in an analytical method
INVENTOR(S): Gaussens, Gilbert; Marchand, Joseph; Moulin, Claude; Noaillac, Jean Roch
PATENT ASSIGNEE(S): Commissariat a l'Energie Atomique , Fr.
SOURCE: Fr. Demande, 19 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2528581	A1	19831216	FR 1982-10415	19820615
FR 2528581	B1	19850222		
EP 97573	A1	19840104	EP 1983-401182	19830609
EP 97573	B1	19860910		
R: BE, CH, DE, GB, IT, LI, LU, NL, SE				
JP 59010852	A2	19840120	JP 1983-105973	19830615

PRIORITY APPLN. INFO.: FR 1982-10415 19820615

AB A method and app. are described for the detn. of biol. compds. (e.g., antigens, **antibodies**, **enzymes**, hormones, vitamins, proteins) by using a nonradioactive tracer (e.g., by **enzyme** immunoassay). The app. consists of a transparent flat-bottomed tube contg. a 1st reaction zone with polyamide blades for immobilizing the compd. or its antagonist (e.g., the **antibody**), a 2nd zone for detg. the **optical** characteristics of the sample, and a 3rd zone for washing the contents of the tube. The tube is prepd. by injection of thermoplastic materials. Thus, the prepd. **app**. was used for the **detn**. of .alpha.-fetoproteins (AFP) by

enzyme immunoassay by using anti-AFP **antibody** immobilized on the 1st reaction zone and anti-AFP-horseradish peroxidase conjugate.

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 09:35:23 ON 16 AUG 2001)

L18 141 SEA ABB=ON PLU=ON L13(L)(DYE? OR LABEL? OR STAIN? OR COLLOID? SOL OR SIGNAL OR ENZYME)

L19 78 SEA ABB=ON PLU=ON L18(L)(METHOD OR TECHNIQUE)

L20 41 DUP REM L19 (37 DUPLICATES REMOVED)

L20 ANSWER 1 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

ACCESSION NUMBER: 2001-335215 [35] WPIDS
CROSS REFERENCE: 1994-234856 [28]; 2001-210770 [21]
DOC. NO. NON-CPI: N2001-241959
DOC. NO. CPI: C2001-103524
TITLE: Particle light scatter-based immunoassay for measuring an analyte, e.g. an antigen, in a fluid sample, comprises correlating light scatter signals from reacted microspheres with the amount of analyte.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): CENNERAZZO, M; EDENS, C T; HANSEN, W P; KOCHAR, M
PATENT ASSIGNEE(S): (CENN-I) CENNERAZZO M; (EDEN-I) EDENS C T; (HANS-I) HANSEN W P; (KOCH-I) KOCHAR M
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2001002316	A1	20010531	(200135)*		25

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 2001002316	A1	Cont of	US 1992-994903	19921222
		CIP of	US 1994-286778	19940805
		Div ex	US 1995-473187	19950607
			US 2000-750375	20001228

FILING DETAILS:

PATENT NO	KIND		PATENT NO
US 2001002316	A1	CIP of	US 5589401
		Div ex	US 6200820

Searcher : Shears 308-4994

PRIORITY APPLN. INFO: US 1995-473187 19950607; US 1992-994903 19921222; US 1994-286778 19940805; US 2000-750375 20001228

AN 2001-335215 [35] WPIDS

CR 1994-234856 [28]; 2001-210770 [21]

AB US2001002316 A UPAB: 20010625

NOVELTY - A particle light scatter-based immunoassay for measuring (M1) an analyte in a fluid sample, comprising determining the distribution of light scatter signals produced from non-colloidal particles in an immunocomplex or in uncomplexed microspheres, is new.

DETAILED DESCRIPTION - A new particle light scatter-based immunoassay for measuring (M1) an analyte in a fluid sample comprises:

(a) combining binding molecule-coated monodisperse microspheres having a resolvable light scatter signal and second binding molecule-coated colloidal particles, or an immunocomplex comprising the microspheres, analyte and colloidal particles, with the fluid sample, to form a mixture and allow formation or decomplexation of the immunocomplex, so that the mixture includes relative amounts of non-colloidal particles from the immunocomplex and uncomplexed microspheres, the amounts being dependent upon the presence or amount of analyte in the sample;

(b) illuminating the non-colloidal particles after the reaction with an incident light source to produce individual light scatter signals for each of the non-colloidal particles; and

(c) determining a statistical distribution of the light scatter signals that can be correlated with the presence or amount of analyte in the sample.

INDEPENDENT CLAIMS are also included for the following:

(1) a particle light scatter-based immunoassay for simultaneously measuring (M2) two or more analytes in a single fluid sample comprising M1, where the relative amounts of the immunocomplex and uncomplexed microspheres for each of the analytes is determined; and

(2) apparatus for measuring the light scattering characteristics of particles comprising:

(a) a flow cell defining a bore;

(b) means for passing a stream of liquid bearing the particles along the bore, including a sheath flow means for passing a stream of a sample liquid bearing the particles along the bore within the stream of sheath liquid;

(c) means for directing light through the flow cell along a beam path transverse to the bore so that the light impinges on particles in the stream;

(d) detector means for detecting light scattered by the particles and providing signals representing the strength of the detected light; and

(e) cell position feedback control means for automatically adjusting the relative position of the flow cell and the beam path in response to the signals from the detector means so as to maximize the strength of the detected light as represented in the signals.

USE - The method and apparatus for carrying out the method are used for measuring the presence or amount of one or more analyte, such as, an antigen, antibody, hapten, nucleic acid or ligand, in a fluid sample (claimed).

ADVANTAGE - The new method combines the mechanical simplicity and low cost of particle agglutination homogeneous assays with the reduction in deleterious effects of interfering substances by solid support based heterogeneous assays. More than one analyte may be simultaneously measured in a fluid sample.

Dwg.0/8

L20 ANSWER 2 OF 41 MEDLINE DUPLICATE 1

ACCESSION NUMBER: 2001140371 MEDLINE

DOCUMENT NUMBER: 21065885 PubMed ID: 11137543

TITLE: A time-resolved fluoroimmunometric assay for the detection of microcystins, cyanobacterial peptide hepatotoxins.

AUTHOR: Mehto P; Ankelo M; Hinkkanen A; Mikhailov A; Eriksson J E; Spoof L; Meriluoto J

CORPORATE SOURCE: Department of Biochemistry and Pharmacy, Abo Akademi University, P.O. Box 66, 20521 Turku, Finland.

SOURCE: TOXICON, (2001 Jun) 39 (6) 831-6.
Journal code: VWT; 1307333. ISSN: 0041-0101.

PUB. COUNTRY: England: United Kingdom
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200103

ENTRY DATE: Entered STN: 20010404
Last Updated on STN: 20010404
Entered Medline: 20010308

AB An immunoassay based on the time-resolved **fluorometry** (TR-FIA) was developed for microcystins, cyanobacterial peptide hepatotoxins. The assay was performed in a competitive mode and it utilised the monoclonal **antibodies** raised against microcystin-LR, and a europium chelate of microcystin-LR as a competitive antigen. The sensitivity of the **assay** was 0.1microg/l. The **detection method** of TR-FIA was compared to a commercially available **kit** based on the **enzyme**-linked immunosorbent assay (ELISA). The same level of sensitivity could be obtained with TR-FIA (in a non-optimised system). The simplified **method** of TR-FIA leads to a shorter analysis time.

L20 ANSWER 3 OF 41 SCISEARCH COPYRIGHT 2001 ISI (R) DUPLICATE 2
ACCESSION NUMBER: 2001:119041 SCISEARCH
THE GENUINE ARTICLE: 396FB
TITLE: Biological immunoassay with high T-c superconducting quantum interference device (SQUID) magnetometer
AUTHOR: Enpuku K (Reprint); Minotani T
CORPORATE SOURCE: Kyushu Univ, Dept Elect, Fukuoka 8128581, Japan (Reprint)
COUNTRY OF AUTHOR: Japan
SOURCE: IEICE TRANSACTIONS ON ELECTRONICS, (JAN 2001) Vol. E84C, No. 1, pp. 43-48.
Publisher: IEICE-INST ELECTRONICS INFORMATION COMMUNICATIONS ENG, KIKAI-SHINKO-KAIKAN BLDG MINATO-KU SHIBAKOEN 3 CHOME, TOKYO, 105, JAPAN.
ISSN: 0916-8524.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 14

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB A high T-c superconducting quantum interference **device** (SQUID) magnetometer system is developed for the application to biological immunoassay. In this application, magnetic nanoparticles are used as magnetic markers to perform **immunoassay**; i.e.. to **detect** binding reaction between an antigen and its **antibody**. The **antibody** is **labeled** with gamma -Fe2O3 nanoparticles. and the binding reaction can he magnetically detected by measuring the magnetic field from the nanoparticles. Design and set up of the system is described, and the sensitivity of the system is studied in terms of detectable,le number uf the magnetic markers. At present, we can detect 4 x 10(6) markers when the diameter of the marker is 50 nm. Total weight of the magnetic nanoparticles becomes 520 pg ill this case. All experiment is also conducted to measure antigen-**antibody** reaction with the present system, It is shown that the sensitivity of the present system is 10 times better than that of the conventional **method** using an **optical** marker. A one order of magnitude improvement of sensitivity will he realized by the sophistication of the present system.

L20 ANSWER 4 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2000-400188 [34] WPIDS
DOC. NO. NON-CPI: N2000-299754
DOC. NO. CPI: C2000-120931
TITLE: Sample analyte evaluating test strip, used in disease detection and food contamination assays, has immobilized analyte and control binding agents.
DERWENT CLASS: B04 C07 D13 D16 J04 S03
INVENTOR(S): DINELLO, R K; NEUBARTH, S; NIXON, D; PHILLIPS, A;

POLITO, A J; SIERRA, G H; THAYER, R M
PATENT ASSIGNEE(S): (PRAX-N) PRAXSYS BIOSYSTEMS INC
COUNTRY COUNT: 90
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000031539	A1	20000602	(200034)*	EN	56
AU 2000017407	A	20000613	(200043)		
CN 1257204	A	20000621	(200049)		
US 6136610	A	20001024	(200055)		

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000031539	A1	WO 1999-US27595	19991118
AU 2000017407	A	AU 2000-17407	19991118
CN 1257204	A	CN 1999-124894	19991123
US 6136610	A	US 1998-199255	19981123

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000017407	A	Based on	WO 200031539

PRIORITY APPLN. INFO: US 1998-199255 19981123
AN 2000-400188 [34] WPIDS
AB WO 200031539 A UPAB: 20000718

NOVELTY - A sample analyte evaluating test strip, is new, and comprises a sample application zone, an analyte measurement zone including an immobilized analyte binding agent, control binding agent zone, and two control measurement zones with different amounts of different control agents immobilized in them. During operation the analyte and control binding agent diffuse to their respective measurement zones.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a test strip for evaluating at least two analytes in a sample, comprising two analyte measurement zones having different analyte binding agents immobilized in them, a sample application

zone, control binding agent zone, and two control measurement zones with different amounts of different control agents immobilized in them, during operation the analyte and control binding agent diffuse to their respective measurement zones;

(2) a method of evaluating a sample analyte, comprising:

(a) measuring the amount of analyte immobilized in the analyte measurement zone of the novel test strip;

(b) measuring the amount of control binding agent immobilized in each of the control measurement zones; and

(c) evaluating the sample analyte amount, based on the relationship between the three measured amounts;

(3) a sample analyte evaluating apparatus, comprising:

(a) a housing having a receptacle for retaining the novel test strip;

(b) a sensor system for measuring the amounts of analyte or control binding agent immobilized in the measurement zones; and

(c) a processor and memory which can evaluate the amount of analyte by determining a mathematical relationship between the measurements; and

(4) a kit, comprising the novel test strip, adapted to be positioned in a receptacle.

USE - The test strip is used to evaluate analytes in samples (claimed). The strip may be used in assays for disease such as Helicobacter pylori, or acquired immunodeficiency syndrome or conditions such as pregnancy. The sample to be evaluated may be whole blood, serum, plasma, urine or other human biological samples, or alternatively non-human samples such as livestock, veterinary or food samples. The assay is used to measure food contamination such as Escherichia coli or Salmonella.

ADVANTAGE - None given.

DESCRIPTION OF DRAWING(S) - The drawing shows a sample analyte evaluating device.

Rapid assay reader 100

Cartridge receptacle 120

Keyboard 130

Display 140.

Dwg.1/8

L20 ANSWER 5 OF 41 MEDLINE DUPLICATE 3

ACCESSION NUMBER: 2001204535 MEDLINE

DOCUMENT NUMBER: 21117417 PubMed ID: 11225774

TITLE: Electrochemical immunoassays.

AUTHOR: Warsinke A; Benkert A; Scheller F W

CORPORATE SOURCE: University of Potsdam, Institute of Biochemistry and Molecular Physiology, Luckenwalde, Germany.. warsinke@rz.uni-potsdam.de

SOURCE: FRESENIUS JOURNAL OF ANALYTICAL CHEMISTRY, (2000 Mar-Apr) 366 (6-7) 622-34. Ref: 105

Journal code: DVT; 9114077. ISSN: 0937-0633.
PUB. COUNTRY: Germany: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200104
ENTRY DATE: Entered STN: 20010417
Last Updated on STN: 20010417
Entered Medline: 20010412

AB Immunoassays (IA) use the specific antigen **antibody** complexation for analytical purposes. Radioimmunoassays (RIA), fluorescence immunoassays (FIA) and **enzyme** immunoassays (EIA) are well established in clinical diagnostics. For the development of hand-held **devices** which can be used for point of care **measurements**, electrochemical **immunoassays** are promising alternatives to existing immunochemical tests. Moreover, for opaque or **optically** dense matrices electrochemical **methods** are superior. Potentiometric, capacitive and amperometric transducers have been applied for direct and indirect electrochemical **immunoassays** . However, due to their fast **detection**, broad linear range and low **detection** limit, amperometric transducers are preferred. Competitive and noncompetitive amperometric **immunoassays** have been developed with redox compounds or **enzymes** as **labels**. This review will give an overview of the most frequently applied principles in electrochemical **immunoassays**. The potential of an indirect competitive amperometric **immunoassay** for the **determination** of creatinine within nanomolar range and the circumvention of the most serious problem in electrochemical immunoassays, namely regeneration, will be discussed.

L20 ANSWER 6 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2000-097350 [08] WPIDS
DOC. NO. NON-CPI: N2000-075212
DOC. NO. CPI: C2000-028260
TITLE: Optimization of agents to regenerate biosensor surfaces.
DERWENT CLASS: B04 D16 J04 S03 T01
INVENTOR(S): ANDERSSON, K; HAEMAELAEINEN, M; MALMQVIST, M; ROOS, H K; ROOS, H
PATENT ASSIGNEE(S): (BIAC-N) BIACORE AB
COUNTRY COUNT: 22
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG

WO 9963333 A1 19991209 (200008)* EN 131
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU JP US
AU 9946658 A 19991220 (200021)
EP 1082607 A1 20010314 (200116) EN
R: BE CH DE FI FR GB LI NL SE

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9963333	A1	WO 1999-SE921	19990531
AU 9946658	A	AU 1999-46658	19990531
EP 1082607	A1	EP 1999-930044	19990531
		WO 1999-SE921	19990531

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9946658	A	Based on	WO 9963333
EP 1082607	A1	Based on	WO 9963333

PRIORITY APPLN. INFO: US 1998-87402 19980529
AN 2000-097350 [08] WPIDS
AB WO 9963333 A UPAB: 20000215
NOVELTY - A **method** for selecting an optimized regeneration solution for the regeneration of a biosensor surface having a surface-bound ligand and an analyte associated with the ligand, is new.

DETAILED DESCRIPTION - The **method** comprises:

(1) sequentially contacting the biosensor with first regeneration cocktails, where each one is in aqueous solution comprising at least one acidic, basic, ionic, organic, detergent or chelating stock solution, and where at least one of the cocktails comprises a mixture of at least two of the stock solutions;

(2) measuring the regeneration effect for each of the cocktails to determine which have the highest measured regeneration effect;

(3) selecting at least two different stock solutions present in the cocktails having the highest measured regeneration effect;

(4) combining the stock solutions in various ratios to generate another set of regeneration cocktails;

(5) sequentially contacting the biosensor surface with each of the new cocktails; and

(6) determining the regeneration effect of each cocktail, and identifying one as the optimized regeneration solution.

INDEPENDENT CLAIMS are also included for the following:

(1) a **method** for characterizing a ligand or analyte associated with a biosensor surface, comprising:

(a) contacting the biosensor surface, having a bound ligand, sequentially with characterization solutions;

(b) introducing the analyte into each solution, to interact with the bound ligand;

(c) measuring at least one of, association or dissociation rates, surface bound analyte concentration, and regeneration effect of the analyte and ligand interaction for each solution;

(d) characterizing the ligand or analyte from the results; and optionally

(e) comparing the characterization of the ligand and/or analyte associated with the biosensor surface with a set of predetermined characteristics of other test molecules, and predicting their activity; and

(2) a generated data **signal**, or computer memory containing a data structure, useful for communication of chemical perturbation information associated with an analyte-ligand interaction, comprising at least one kinetic parameter, each expressed as a mathematical model describing the relation between the parameter and analyte-ligand interaction in characterization solutions, so that the data can be used to communicate chemical perturbation information associated with the analyte-ligand interaction.

USE - Ligand-analyte binding pair interactions are used in assay work. They include **antibody**-antigen, hormone-hormone receptor, sense-antisense polynucleotides, avidin or streptavidin-biotin, **enzyme**-substrate or inhibitor, lectin-matching saccharide, lipid or polynucleotide -binding or matching protein, receptor-transmitter, drug target, protein-protein, DNA-DNA, and DNA-RNA. The process is used to break ligand-analyte interactions to regenerate a surface contaminated with analyte, for reuse in the next assay. Many surfaces suitable for carrying a required ligand are costly to produce, and must be reused if possible. As a notable example, the biosensor surface is a gold layer, which is capable of supporting surface plasmon resonance (SPR), or other **optical detection** and **assay technique**. The ligand is bound to this layer, preferably indirectly through a dextran matrix. The recovery can't be too harsh, or the ligand will be lost. The recovered analyte may be separated and collected for subsequent other **assays** if required. From a recovery profile from different solvents as **determined** with known samples, the analyte can also be characterized, even to detect minute differences, for quality control or other purposes. The interaction profile of ligand-analyte may be used to predict activity of the analyte, to be useful for screening. The regeneration and characterization procedures can be automated, using a computer. The computer is

provided with a readable medium as a flowsheet, which instructs instrumentation to prepare the various solutions (unless, initially, a **kit** is available), and following the contacting and assessment procedures as for manual control.
Dwg.0/33

L20 ANSWER 7 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2000-072174 [06] WPIDS
DOC. NO. CPI: C2000-020543
TITLE: Microfabricated device for cell growth and cell-based assays, e.g. for secondary drug screening and determination of cellular analytes.
DERWENT CLASS: B04 D16 J04
INVENTOR(S): THOMAS, N
PATENT ASSIGNEE(S): (AMSH) AMERSHAM PHARMACIA BIOTECH UK LTD
COUNTRY COUNT: 22
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9955827	A1	19991104	(200006)*	EN	32
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: CA JP US					
EP 1073709	A1	20010207	(200109)	EN	
R: AT BE CH DE DK ES FI FR GB IT LI NL SE					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9955827	A1	WO 1999-GB954	19990317
EP 1073709	A1	EP 1999-913456	19990317
		WO 1999-GB954	19990317

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 1073709	A1	Based on	WO 9955827

PRIORITY APPLN. INFO: GB 1998-8836 19980427
AN 2000-072174 [06] WPIDS
AB WO 9955827 A UPAB: 20000203
NOVELTY - Microfabricated apparatus for performing cell-growth and cell-based assays in liquid medium has:
(i) base plate (BP) supporting many microchannel elements, each having a cell growth chamber and inlet and outlet lines for liquid samples;

(ii) cover plate (CP) positioned over BP to define the chambers and lines, with holes to provide channel access, and

(iii) chamber inserts for cell attachment and growth.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) determining the effect of a test compound on a cellular activity or physical property, using this apparatus; and

(b) method for measuring a cellular analyte, using this apparatus.

ACTIVITY - None given.

MECHANISM OF ACTION - None given.

USE - The apparatus is particularly used for:

(1) secondary screening of potential drugs (identified in primary screens);

(2) determination of cellular analytes (e.g. peptide hormones or secondary metabolites), and also for studying cell migration in resonse to physical or chemical stimuli.

ADVANTAGE - Cells, and any assay reagents, can be simultaneously delivered to many growth/assay chambers by rotation of the apparatus as appropriate speeds. The apparatus provides long-term survival of cultured cells, including adherent cells.

DESCRIPTION OF DRAWING(S) - Plan of the apparatus.

Rotatable disk 8

Sample reservoir 9

Microchaanel assay elements, containing growth chamber and smaller assay chamber 6

Waste channel 10

.

Dwg.1b/3

L20 ANSWER 8 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1999-133161 [12] WPIDS

DOC. NO. NON-CPI: N1999-096966

DOC. NO. CPI: C1999-039182

TITLE: Detecting organisms causing spongiform encephalopathy - in pathological and physiological prion iso-form-containing material comprises enzymatically digesting prion which have been fixed via antibodies to solid phase.

DERWENT CLASS: B04 C06 D16 J04 S03 S05

INVENTOR(S): DROST, S; HAUCK, S; WOLF, H

PATENT ASSIGNEE(S): (FRAU) FRAUNHOFER GES FOERDERUNG ANGEWANDTEN

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DE 19730132	A1	19990211	(199912)*		4

DE 19730132 C2 20000120 (200008)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 19730132	A1	DE 1997-19730132	19970714
DE 19730132	C2	DE 1997-19730132	19970714

PRIORITY APPLN. INFO: DE 1997-19730132 19970714
AN 1999-133161 [12] WPIDS
AB DE 19730132 A UPAB: 19990324
A **method** for determining the presence of spongiform encephalopathy (SE) causing organisms in a biological material containing pathological and physiological prion isoforms, comprises: (a) digesting the physiological prion isoform via limited proteolysis, and (b) **determining** the pathological isoforms via **immunoassay** by immobilising the pathological prion isoform via an **antibody** to a solid phase, marking the prions with a second **labelled antibody** and detecting the **label optically**, by immuno-resin crystal microscale and/or surface wave-frequency elements. Also claimed is a **device** for carrying out the **method** above comprising reactor elements for the preparation of the test material, reagents, **antibodies** and detector elements.

USE - The **method** is used to detect bovine SE, scrapie, Creutzfeldt-Jacob disease, kuru kuru, Gerstmann-Straeussler-syndrome and/or Alzheimer's disease (all claimed).

Dwg.0/0

L20 ANSWER 9 OF 41 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 1999382152 MEDLINE
DOCUMENT NUMBER: 99382152 PubMed ID: 10454349
TITLE: Detection and characterization of antibodies to PEG-IFN-alpha2b using surface plasmon resonance.
AUTHOR: Takacs M A; Jacobs S J; Bordens R M; Swanson S J
CORPORATE SOURCE: Schering-Plough Research Institute, Kenilworth, NJ 07033, USA.
SOURCE: JOURNAL OF INTERFERON AND CYTOKINE RESEARCH, (1999 Jul) 19 (7) 781-9.
Journal code: CD4; 9507088. ISSN: 1079-9907.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199910
ENTRY DATE: Entered STN: 19991101

Last Updated on STN: 19991101
Entered Medline: 19991019

AB Some patients treated with type I interferon (IFN) preparations develop neutralizing **antibodies** that may abrogate any clinical benefit. We have a new complex of polyethylene glycol12000 and IFN-alpha2b (PEG-IFN-alpha2b) in clinical trials and need to be able to detect any **antibodies** formed specifically against the complex. We have, therefore, devised a **method** based on measurement of surface plasmon resonance (SPR) in the BIACORE 2000 **apparatus**. PEG-IFN-alpha2b is anchored to one flow cell on the sensor chip, IFN-alpha2b to another, and PEG to a third. A 20 microl serum sample flows in turn through the three cells, which are **optically** scanned. Any **antibodies** in the serum bind to the corresponding immobilized antigen, and a change in the **optical signal** is generated. With appropriate specific reagents, their immunoglobulin isotype can be similarly established. The automated assay can quickly test numerous sera. Very little serum is needed, and the **assay** is reliable and precise and can **detect** low-alphaffinity **antibodies**

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L20 ANSWER 10 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1998-335532 [30] WPIDS
DOC. NO. NON-CPI: N1998-261851
DOC. NO. CPI: C1998-104106
TITLE: Surface plasmon resonance immunoassay method used for analysis of body fluids - using fluorescent emission detector of specific geometry for high sensitivity.
DERWENT CLASS: B04 D16 J04 S03
INVENTOR(S): LIN, J; WILSON, C J
PATENT ASSIGNEE(S): (DIAG-N) DIAGNOSTIC PROD CORP
COUNTRY COUNT: 27
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 851230	A1	19980701	(199830)*	EN	24
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
US 5776785	A	19980707	(199834)		
AU 9749232	A	19980709	(199838)		
AU 698376	B	19981029	(199904)		
JP 10311831	A	19981124	(199906)		15
JP 3100360	B2	20001016	(200054)		14

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 851230	A1	EP 1997-310569	19971223
US 5776785	A	US 1996-777406	19961230
AU 9749232	A	AU 1997-49232	19971223
AU 698376	B	AU 1997-49232	19971223
JP 10311831	A	JP 1997-366987	19971226
JP 3100360	B2	JP 1997-366987	19971226

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 698376	B	Previous Publ.	AU 9749232
JP 3100360	B2	Previous Publ.	JP 10311831

PRIORITY APPLN. INFO: US 1996-777406 19961230

AN 1998-335532 [30] WPIDS

AB EP 851230 A UPAB: 19980730

An **immunoassay method** for **determining** the presence or amount of an analyte (A) in a body fluid comprises: (a) providing an **optical** structure comprising a transparent solid phase substrate coated with a metal film which supports surface plasmon resonance (SPR) and on which a first specific binding partner (sbp) for (A) is immobilised; (b) contacting the first sbp with the body fluid and a tracer comprising a fluorescent **label** conjugated to (A) (or an immunological analogue) or a second sbp for (A); (c) irradiating the substrate with excitation radiation of a wavelength, polarisation and angle of incidence sufficient to produce SPR and to induce an emission cone of fluorescence from any specifically bound tracer; (d) measuring any change in rate or amount of fluorescent emission (FE) over a pre-determined time period using a collector which captures all of the fluorescence in the emission cone and has a substrate geometry which collects the FE along two angular dimensions in a spherical coordinate space; and (e) determining the presence or amount of (A) in the sample from the measured change value. Also claimed are: (i) a **method** of improved collection of FE in an assay as above, involving use of a collector as described above; and (ii) the **apparatus** for the assay.

USE - (A) is specifically an antigen (especially a protein, **enzyme** or oligonucleotide), an **antibody**, a hapten (especially a hormone, drug or allergen) or an immuno-reactive fragment (all claimed).

ADVANTAGE - The FE collection system captures the entire induced emission cone, to increase the emission **signal** and improve the assay performance. The assay combines the convenience of a conventional homogenous assay and a ligand concentration

sensitivity at least comparable with that of a conventional heterogeneous assay.
Dwg.0/10

L20 ANSWER 11 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1997-340536 [31] WPIDS
CROSS REFERENCE: 1991-117618 [16]; 1991-117625 [16]; 1992-300174 [36]; 1992-300183 [36]; 1992-349359 [42]; 1994-065810 [08]; 1996-010090 [01]; 1996-076885 [08]; 1996-361950 [36]; 1997-288174 [26]; 1999-152762 [13]
DOC. NO. NON-CPI: N1997-282600
DOC. NO. CPI: C1997-109335
TITLE: Optimisation of visual signal from optical assay device - for detection of analyte, e.g. rheumatoid factor, viral antigens, carbohydrate, drug or nucleic acid.
DERWENT CLASS: B04 D16 J04 S02 S03
INVENTOR(S): BOGART, G R; ETTER, J B
PATENT ASSIGNEE(S): (BIOS-N) BIOSTAR INC
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5639671	A	19970617	(199731)*		69

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 5639671	A	CIP of	US 1989-408291	19890918
		CIP of	US 1992-873097	19920424
		CIP of	US 1992-923048	19920731
		Cont of	US 1993-76319	19930610
			US 1995-412600	19950328

PRIORITY APPLN. INFO: US 1993-76319 19930610; US 1989-408291 19890918; US 1992-873097 19920424; US 1992-923048 19920731; US 1995-412600 19950328
AN 1997-340536 [31] WPIDS
CR 1991-117618 [16]; 1991-117625 [16]; 1992-300174 [36]; 1992-300183 [36]; 1992-349359 [42]; 1994-065810 [08]; 1996-010090 [01]; 1996-076885 [08]; 1996-361950 [36]; 1997-288174 [26]; 1999-152762 [13]
AB US 5639671 A UPAB: 19990331
Optimizing a visual **signal** from an **optical**

assay device for the **detection** of an analyte comprises: (a) providing a substrate having an anti-reflective film on it, with a series of thicknesses (preferably optimal) varied incrementally along the length of the substrate, providing an attachment layer of a chosen thickness on the anti-reflective film and providing a receptive layer of a chosen thickness for the analyte on the attachment layer; (b) contacting the analyte with the receptive layer such that a mass change on the receptive layer results, and (c) determining at least 1 thickness of the series of thicknesses of the anti-reflective film that, in combination with the other layers of the **device**, produces a visual **signal** comprising a maximised visual contrast in interference colour upon the change in mass relative to a background interference colour, over a range of concentrations of the analyte.

USE - The **method** can be used to detect analytes such as rheumatoid factor, immunoglobulin E **antibodies** specific for Birch pollen, carcinoembryonic antigen, Streptococcus Group A antigen, viral antigens, antigens associated with autoimmune disease, allergens, a tumour or an infectious microorganism, Streptococcus Group B antigen, HIV I or HIV II antigen, host response (**antibodies**) to the virus, antigens specific to RSV or host response (**antibodies**) to the virus, an **antibody**, antigen, **enzyme**, hormone, polysaccharide, protein, lipid, carbohydrate, drug or nucleic acid, analyte derived from causative organisms for meningitis, Neisseria meningitidis groups A, B, C, Y and W135, S. pneumoniae, E. coli K1, Haemophilus influenzae type B, antigen derived from microorganisms, a hapten, a drug of abuse (including drugs which are unlawful to use without a permit or license), a therapeutic drug, an environmental agent and antigens specific to hepatitis.

Dwg.0/18

L20 ANSWER 12 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1997-288174 [26] WPIDS
CROSS REFERENCE: 1991-117618 [16]; 1991-117625 [16]; 1992-300174 [36]; 1992-300183 [36]; 1992-349359 [42]; 1994-065810 [08]; 1996-010090 [01]; 1996-076885 [08]; 1996-361950 [36]; 1997-340536 [31]; 1999-152762 [13]
DOC. NO. NON-CPI: N1997-238681
DOC. NO. CPI: C1997-092690
TITLE: Optical assay device - detects presence of an analyte by colour change in optically active layer.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): CROSBY, M
PATENT ASSIGNEE(S): (BIOS-N) BIOSTAR INC
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5629214	A	19970513	(199726)*		70

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 5629214	A	CIP of	US 1989-408291	19890918
		CIP of	US 1992-873097	19920424
		CIP of	US 1992-924343	19920731
		Div ex	US 1993-75952	19930610
			US 1995-456040	19950531

FILING DETAILS:

PATENT NO	KIND		PATENT NO
US 5629214	A	Div ex	US 5541057

PRIORITY APPLN. INFO: US 1993-75952 19930610; US 1989-408291 19890918; US 1992-873097 19920424; US 1992-924343 19920731; US 1995-456040 19950531

AN 1997-288174 [26] WPIDS

CR 1991-117618 [16]; 1991-117625 [16]; 1992-300174 [36]; 1992-300183 [36]; 1992-349359 [42]; 1994-065810 [08]; 1996-010090 [01]; 1996-076885 [08]; 1996-361950 [36]; 1997-340536 [31]; 1999-152762 [13]

AB US 5629214 A UPAB: 19990331

Optical assay device for **detecting quantitatively** or qualitatively an analyte of interest comprises: (1) a substrate supporting an **optically** active layer comprising an **optical** thin film, (2) an attachment layer provided on the **optically** active layer, where the attachment layer is a material selected from dendrimers, star polymers, molecular self-assembling polymers, polymeric siloxanes, and film forming latexes, (3) a receptive layer specific for the analyte provided on the attachment layer. The **method** comprises:(1) forming the **optical** thin film with a chosen refractive index on the substrate by curing the **optical** thin film on the substrate either at a controlled temperature or for a controlled time such that the **optically** active layer in conjunction with the attachment and receptive layers exhibits a first colour in response to light and a second colour comprising a combination of wavelengths different from the first colour, or having at least 1 wavelength with an intensity different from the first colour in response to the light from the analyte on

the receptive layer, and (2) subsequently providing the attachment and receptive layers on the **optically** active layer. Also claimed are (1) a **method** for forming a **device** for use in an **optical** assay for an analyte comprising: a multilayered substrate comprising a layer of base material, a conducting metal layer on the layer of base material comprising aluminium, chromium or a transparent conducting oxide, a layer of amorphous silicon on the conducting metal layer, an anti-reflective layer on the layer of amorphous silicon, an attachment layer on the anti-reflective layer, where the attachment layer comprises a material selected from dendrimers, star polymers, molecular self-assembling polymers, polymeric siloxanes, and film forming latexes, and a receptive layer specific for the analyte on the attachment layer, the **method** comprising the steps of: providing the layers of conducting metal and amorphous silicon on the layer of base material, forming the anti-reflective layer with a chosen refractive index on the layer of amorphous silicon by curing the anti-reflective layer at a controlled temperature or for a controlled time, and subsequently providing the attachment and receptive layers on the anti-reflective layer; (2) a **method** for forming a **device** for use in an **optical** assay for an analyte comprising: a multi-layered substrate comprising a layer of base material, a layer of amorphous silicon on the layer of base material, and an anti-reflective layer on the layer of amorphous silicon, an attachment layer on the anti-reflective layer, where the attachment layer comprises a material selected from dendrimers, star polymers, molecular self-assembling polymers, polymeric siloxanes, and film forming latexes, and a receptive layer specific for the analyte on the attachment layer, the **method** comprising the step of: forming the anti-reflective layer with a chosen refractive index on the layer of amorphous silicon by curing the anti-reflective layer at a controlled temperature or for a controlled time, and subsequently providing the attachment and receptive layers on the anti-reflective layer; (3) a **method** for forming an **optical** assay **device** for an analyte comprising: a substrate selected from glass, plastic, silicon and amorphous silicon, an anti-reflective layer on the substrate selected from silicon nitride, composite of silicon/silicon dioxide, titanates, silicon carbide, diamond, cadmium sulphide and titanium dioxide, an attachment layer on the anti-reflective layer selected from a polymeric silane, siloxane. film forming latex and a dendrimer, and a specific binding layer for the analyte on the attachment layer,the anti-reflective layer comprising an **optical** thin film, the **method** comprising the step of: forming the **optical** thin film on the substrate with a chosen refractive index by curing the **optical** thin film on the substrate at a controlled temperature or for a controlled time, and subsequently providing the

attachment and receptive layers on the **optical** thin film.
USE -The **optical assay device** is used for **determination** of rheumatoid factor, **antibodies**, carcinoembryonic antigen, bacterial and viral antigens, antigens associated with autoimmune disease, allergens, tumours, infectious microorganisms, **antibodies**, **enzymes**, hormones, polysaccharides, proteins, lipids, carbohydrates, drugs and nucleic acids.
Dwg.0/18

L20 ANSWER 13 OF 41 BIOSIS COPYRIGHT 2001 BIOSIS DUPLICATE 5
ACCESSION NUMBER: 1997:265325 BIOSIS
DOCUMENT NUMBER: PREV199799571928
TITLE: Application of a portable immunosensor to detect the explosives TNT and RDX in groundwater samples.
AUTHOR(S): Bart, John C.; Judd, Linda L.; Hoffman, Karen E.; Wilkins, Angela M.; Kusterbeck, Anne W. (1)
CORPORATE SOURCE: (1) Cent. Bio/Mol. Sci. Eng., Biosensors Biomaterials lab., Code 6910, Naval Res. Lab., 4555 Overlook Ave., SW, Washington, DC 20375-5348 USA
SOURCE: Environmental Science & Technology, (1997) Vol. 31, No. 5, pp. 1505-1511.
ISSN: 0013-936X.
DOCUMENT TYPE: Article
LANGUAGE: English
AB In the summer of 1995, the EPA conducted a performance evaluation of several commercially available test **kits** and two prototype biosensor **devices** to determine if any of these technologies were feasible as an alternative to the standard EPA SW-846 **Method** 8330 test for explosives in aqueous samples. These on-site assays offer potential advantages in cost, assay time, and convenience over the traditional analysis via high-performance liquid chromatography (HPLC). The continuous flow immunosensor (CFI) was one of the biosensors participating in this trial, which took place at two Superfund sites located on military bases. The CFI uses a small column filled with plastic beads containing immobilized **antibodies** against the explosive being **assayed** and a fluorescent **dye-labeled** explosive analog. **Detection** occurs when the native explosive in the sample is swept into the column and displaces some of the **dye-labeled** analog, which is quantified via a **fluorometer**. Results from these tests showed that the CFI could produce data comparable to HPLC with no significant problems with cross-reactivity of the **antibodies** against other explosives or their breakdown products.

L20 ANSWER 14 OF 41 BIOSIS COPYRIGHT 2001 BIOSIS DUPLICATE 6
ACCESSION NUMBER: 1997:406958 BIOSIS

DOCUMENT NUMBER: PREV199799713161
TITLE: Label free optical immunoprobes for pesticide detection.
AUTHOR(S): Brecht, A.; Gauglitz, G. (1)
CORPORATE SOURCE: (1) Univ. Tuebingen, Inst. Physical Theoretical Chemistry, Auf der Morgenstelle 8, D-72076 Tuebingen Germany
SOURCE: Analytica Chimica Acta, (1997) Vol. 347, No. 1-2, pp. 219-233.
ISSN: 0003-2670.
DOCUMENT TYPE: Article
LANGUAGE: English

AB In environmental analysis immunological **methods** based on non covalent selective molecular interactions can be used as a sensitive tool. The **label** free detection of these interactions in real time allows simple, fast, and elegant approaches. **Optical** transducers are used for direct, **label** free immunoprobes with considerable success. For the **detection** of low molecular weight environmental analytes binding inhibition **assays** are common. **Antibodies** are mixed with the sample and **antibody** binding sites are blocked by the analyte. Subsequently the concentration of free **antibodies** is quantified by binding to a transducer modified with a derivative of the analyte. The basic effects monitored by the transducers are an increase in refractive index or changes in surface adlayers. Accordingly the transducers can be described as micro-refractometers or micro-reflectometers. A large number has been published in recent years (G. Gauglitz, Opto-Chemical and Opto-Immuno Sensors, in: H. Baltes, W. Gopel, J. Hesse (Eds.), Sensor Update, VCH Verlagsgesellschaft, Weinheim, 1996.) Results from four **optical** transducers out of this variety (grating coupler, channel waveguide interferometer, waveguide surface plasmon resonance, thin film reflectometry) applied to pesticide detection are compared. Test cycles below 15 min can be reached. Performance is limited by drift and noise of the transducers. Limits of detection reached are comparable for all of the transducers and reach values between 0.05 and 0.15 ppb under laboratory conditions. Application to environmental samples reveals problems with the sample matrix. The performance of these four **devices** and the potential for further application is discussed.

L20 ANSWER 15 OF 41 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 97400135 MEDLINE
DOCUMENT NUMBER: 97400135 PubMed ID: 9257652
TITLE: Quantitation of HIV-1-specific IgG, IgA, and IgM antibodies in human genital tract secretions.
AUTHOR: Haimovici F; Mayer K H; Anderson D J
CORPORATE SOURCE: Department of Obstetrics, Gynecology and Reproductive

Biology, Brigham and Women's Hospital, Harvard
Medical School, Boston, Massachusetts 02115, USA.
CONTRACT NUMBER: AI35564 (NIAID)
HD33205 (NICHD)
SOURCE: JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES AND HUMAN RETROVIROLOGY, (1997 Jul 1) 15 (3) 185-91.
Journal code: B7J; 9501482. ISSN: 1077-9450.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199708
ENTRY DATE: Entered STN: 19970908
Last Updated on STN: 19970908
Entered Medline: 19970828

AB A **quantitative enzyme**-linked immunosorbent **assay** (ELISA) has been developed for the **quantitation** of HIV-1-specific immunoglobulins of the IgG, IgA, and IgM isotypes and was used to assess HIV-specific **antibody** concentrations in semen and cervicovaginal lavage (CVL) specimens. Immunoglobulin isotype concentrations were assessed by capture ELISA using immunoglobulin isotype-specific secondary **antibodies** and commercial IgG, IgA, and IgM standards. HIV-1 **antibody** detection **kits** (Abbott Laboratories, North Chicago, IL, U.S.A.) and immunoglobulin isotype-specific secondary **antibodies** were used to obtain **optical** density (OD) units for HIV-1-specific **antibodies** of each isotype. To determine the **antibody** concentrations from the OD values, ODs were compared with those from HIV-1-specific **antibody** isotype standards of known concentration obtained from CVL specimens of seropositive women by affinity binding to HIV antigen-coated beads and acid elution. The sensitivity of the HIV-1-specific immunoglobulin assay was 0.01 microg/ml for IgG, 0.04 microg/ml for IgA, and 0.08 microg/ml for IgM. The interassay coefficient of variation for the different immunoglobulin isotypes varied from 5% to 33%, being lowest for IgG and highest for IgM. HIV-1-specific **antibodies** were detected in all semen samples from seropositive men in concentrations ranging from 53 to 261 microg/ml. Thirteen of 14 samples contained high levels of HIV-1-specific IgG **antibodies** (22-72 microg/ml) whereas 10 of the 14 (71%) semen samples contained detectable but lower levels of HIV-1-specific IgA and IgM (maximum level: 3.7 microg/ml for IgA and 14.8 microg/ml for IgM). HIV-1-specific IgG **antibodies** were detected in all 196 CVL samples from seropositive women in concentrations ranging from 0.01 to 47 microg/ml, whereas only 16 women (8%) had IgA levels above the detectable limit (range, 1.4-3.9 microg/ml), and only eight women (4%) had IgM levels above the detectable limit (range, 1.8-8.6 microg/ml). None of 80 low-risk

women or 20 low-risk men (negative controls) had detectable levels of HIV-1-specific **antibodies** in genital tract specimens. HIV-1-specific IgG levels in CVL specimens of seropositive women were significantly higher in individuals who had acquired HIV through heterosexual transmission, and a majority of women with elevated levels of HIV-specific IgA isotype **antibodies** in CVL samples had evidence of genital tract inflammation (>10[4] polymorphonuclear leukocytes [PMNs]/ml). Use of this quantitative **method** will facilitate direct comparison of data obtained within and among laboratories and enable further research on factors affecting **antibody** levels in genital tract secretions and their effects on HIV-1 transmission.

L20 ANSWER 16 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1996-424071 [42] WPIDS
DOC. NO. NON-CPI: N1996-357084
DOC. NO. CPI: C1996-133615
TITLE: Assay devices for detecting the presence or amt. of analyte - comprise reflective solid, optical substrate, attachment layer, receptive layer and label bound to the receptive layer, useful for e.g. determn. of enzyme activity.
DERWENT CLASS: B04 D16 J04 S03
INVENTOR(S): BOGART, G R
PATENT ASSIGNEE(S): (BIOS-N) BIOSTAR INC
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5552272	A	19960903	(199642)*		71

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5552272	A	US 1993-76348	19930610

PRIORITY APPLN. INFO: US 1993-76348 19930610
AN 1996-424071 [42] WPIDS
AB US 5552272 A UPAB: 19961021
The following are claimed:(a) an assay system for detecting the presence or amt. of an analyte of interest, comprising:
(i) a reflective solid, **optical** substrate;
(ii) an attachment layer (AL) provided on an uppermost surface of the substrate, the AL comprising a chemical selected from dendrimers, star polymers, molecular self-assembling polymers,

polymeric siloxanes and film-forming latexes;
(iii) a receptive layer provided on an uppermost surface of the AL, comprising a specific binding partner for the analyte, and
(iv) a **label** capable of generating a fluorescent **signal** upon excitation with a suitable light source attached to a specific binding reagent so as to allow the **label** to become bound to the analyte. The substrate provides an enhanced level of exciting photons directly to the **label** when the **label** is bound to the receptive layer in the presence of the analyte, and the substrate also increases the capture of fluorescent **signal** relative to capture in the presence of the substrate. Capture of the **signal** by a detector indicates the presence or amt. of the analyte of interest;(b) an assay system for detecting the presence or amt. of an analyte of interest, comprising:
(i) components (i) and (ii) as in (a);
(ii) a receptive layer provided on an uppermost surface of the AL, comprising a specific binding partner for the analyte and for a specific binding reagent bound to a **label**, the **label** being capable of generating a fluorescent **signal** upon excitation with a suitable light source and being able to bind to the receptive layer by the specific binding reagent, where
(iii) the substrate provides an enhanced level of exciting photons directly to the **label** when the **label** is bound to the receptive layer in the presence of the analyte, and the substrate also increases the capture of fluorescent **signal** relative to capture in the presence of the substrate, and where
(iv) capture of the **signal** by a detector indicates the presence or amt. of the analyte of interest which competes with the **label** for binding to the receptive layer, and(c) an assay system as in (a) or (b), in which an anti-reflective film (ARF) is provided on an uppermost layer of the substrate. The AL is provided on an uppermost surface of the ARF which comprises a material selected from silicon nitride, titanium dioxide, silicon/silicon dioxide composites, silicon oxynitride, titanates, diamond, oxides of zirconium and silicon carbide. The ARF is selected to anti-reflect an exciting light.

USE - The **devices** may be used e.g. in **immunoassay methods** for either antigen or **antibody detection**, in direct, indirect or competitive detection schemes, for the determn. of **enzyme** activity, for detection of small organic mols. (e.g. drugs) or for detection of nucleic acids.

ADVANTAGE - The assay devices are user friendly and may be used to allow multiple analytes to be tested with a single sample in a simple way.

Dwg.8e/18

L20 ANSWER 17 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1996-333246 [33] WPIDS
CROSS REFERENCE: 1992-415946 [50]; 1993-094142 [11]; 1994-151486 [18]; 1995-206244 [27]
DOC. NO. NON-CPI: N1996-280886
DOC. NO. CPI: C1996-105253
TITLE: Determn. of soluble HLA antigen using antibody cross-reactive with second antigen - by simultaneous analysis of sample, positive and negative controls in absence and presence of antibody specific for cross-reactive antigen.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): CHANG, C; POULETTY, P
PATENT ASSIGNEE(S): (SANG-N) SANGSTAT MEDICAL CORP
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5534412	A	19960709	(199633)*		7

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 5534412	A	CIP of	US 1991-698319	19910510
		CIP of	US 1991-745163	19910815
		CIP of	US 1992-961579	19921016
			US 1994-315203	19940929

FILING DETAILS:

PATENT NO	KIND		PATENT NO
US 5534412	A	CIP of	US 5256543

PRIORITY APPLN. INFO: US 1994-315203 19940929; US 1991-698319 19910510; US 1991-745163 19910815; US 1992-961579 19921016
AN 1996-333246 [33] WPIDS
CR 1992-415946 [50]; 1993-094142 [11]; 1994-151486 [18]; 1995-206244 [27]
AB US 5534412 A UPAB: 19960823
A soluble first HLA antigen (I) is detected in a sample using an **antibody** (Ab) that cross-reacts with (I) and a second HLA antigen (II) by: (a) reacting 2 samples and Ab in separate containers in absence and presence of anti-(II); (b) combining negative controls (no (I) or (II)) with Ab and positive controls

(contg. (II) with Ab, separate portions of each control being reacted in presence or absence of anti-(II) which enhances a **signal**; (c) adding a conjugate (C) of an **antibody** (Ab2), that binds to an epitope common to (I) and (II) that is not the binding site for Ab, and spectrophotometrically detectable **label**; (d) detecting **label** in all reaction mixt.
The sample is positive for (I) when **optical** density (OD) of sample in absence of anti-(II) is DV1 and percent enhancement due to presence of anti-(II) is at most DV2. DV1 = OD of negative control without anti-(II) plus a percentage of OD of positive control in absence of anti-(II); DV2 = percentage enhancement caused by anti-(II) in the positive control, the percentages being chosen to avoid false results.

USE - The **method** is used where no **antibody** is available that can distinguish between 2 alleles, esp. to determine soluble HLA-B27 in a sample (esp. blood) using Ab reactive with both B27 and B7 (claimed). B27 is associated with ankylosing spondylitis and related diseases. More generally, HLA typing is used to minimise risk of transplant rejection, to determine lineage and in epidemiology.

ADVANTAGE - The **method** is convenient and accurate with few false results and is semi-**quantitative**. Reagents are safe and common to other **assays** and only inexpensive **equipment** is needed.
Dwg.0/1

L20 ANSWER 18 OF 41 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 97044369 MEDLINE
DOCUMENT NUMBER: 97044369 PubMed ID: 8889440
TITLE: A simple, rapid immunometric assay for determination of functional and growth hormone-occupied growth hormone-binding protein in human serum.
AUTHOR: Fisker S; Frystyk J; Skriver L; Vestbo E; Ho K K; Orskov H
CORPORATE SOURCE: Department of Endocrinology and Diabetes, University Hospital of Aarhus, Denmark.
SOURCE: EUROPEAN JOURNAL OF CLINICAL INVESTIGATION, (1996 Sep) 26 (9) 779-85.
Journal code: EN3; 0245331. ISSN: 0014-2972.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199702
ENTRY DATE: Entered STN: 19970305
Last Updated on STN: 19970305
Entered Medline: 19970214
AB We present a sensitive time-resolved **fluorometric**

immunofunctional **assay** (TR-FIA) for direct **quantitation** of functional growth hormone-binding protein (GHBP), using an **immunoassay kit** for growth hormone (GH-DELFIA). In addition to the immobilized GH **antibody**, one monoclonal **antibody** against GHBP was used. This anti-GHBP was **labelled** with the chelate of europium. The **assay** was performed in one step. The **detection** limit for GHBP was 0.044 nmol L-1 (NBS + 3 SD). The calibration curve was linear in the interval 0.11-8.03 nmol L-1. Average intra-assay coefficient of variation (CV) was 3.44%. Average interassay CV at GHBP concentrations 0.563 nmol L-1 and 1.40 nmol L-1 were 12% and 6.3% respectively. Analytical recovery in serum ranged from 76% to 127% with a mean of 101 +/- 3.6%. Serum GHBP in 102 normal subjects ranged from 0.513 to 3.772 nmol L-1 and was positively related to body mass index ($P < 0.001$). In growth hormone-deficient sera GHBP was higher than in control subjects (1.751 +/- 0.179 nmol L-1 and 1.257 +/- 0.140 nmol L-1 respectively, $P < 0.001$). Acromegalic patients had lower levels of GHBP than controls (0.946 +/- 0.251 and 1.234 +/- 0.144 nmol L-1 respectively, $P = 0.005$). This **assay** also allowed **detection** of GH-complexed GHBP in serum. These results were in agreement with theoretical values calculated from the measured GH and the functional GHBP concentrations. Results were compared with data obtained by a recently reported, validated ligand immunofunctional assay (LIFA), which is fundamentally different. There was a significant linear relationship between the results from the two assays ($r = 0.89$, $P = 0.001$). The slope of the regression line was 0.65. In conclusion, this new convenient GHBP TR-FIA provides a sensitive and precise **method** for detecting total GHBP as well as complexed GHBP in human serum, and allows easy processing of large numbers of samples.

L20 ANSWER 19 OF 41 MEDLINE DUPLICATE 9
ACCESSION NUMBER: 97106673 MEDLINE
DOCUMENT NUMBER: 97106673 PubMed ID: 8949421
TITLE: Advances in immunochemical detection of microorganisms.
AUTHOR: Hock B
CORPORATE SOURCE: Department of Botany, Technical University of Munchen at Weihenstephan, Freising, Germany.
SOURCE: ANNALES DE BIOLOGIE CLINIQUE, (1996) 54 (6) 243-52. Ref: 24
Journal code: 4ZS; 2984690R. ISSN: 0003-3898.
PUB. COUNTRY: France
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English

FILE SEGMENT: Priority Journals
ENTRY MONTH: 199701
ENTRY DATE: Entered STN: 19970219
Last Updated on STN: 19970219
Entered Medline: 19970127

AB Immunology and microbiology have been linked together since their infancies. The discovery more than 100 years ago that **antibodies** (Abs) constitute one of the pillars of the body's defense against bacteria and viruses led immediately to the development of serological tests for diagnosis and identification of microorganisms. More recent approaches are based on immunoassay technology, which does not require cross-linking of antigens by Abs. High sensitivity results from the use of **labels**, such as fluorescent **dyes** or **enzymes**, for the detection of antigen binding by Abs. As an example, the **quantification** of members of the Enterobacteriaceae in drinking water using **enzyme immunoassays** (Elisa) is presented, which is now available as a DIN standard. Related **techniques** such as dipstick or dot blot tests originated from the necessity of shortening the analysis time. Immunofluorescence flow cytometry represents the most sophisticated development of this technology to date. A major technological leap is expected from immunosensors, miniaturized measuring **devices** that selectively detect their targets and provide concentration-dependent **signals**. When Abs as part of the receptor unit bind their ligands, there is a variation in **optical** properties, electric charge, mass, or heat, which can be detected directly, ie without tracers, by a variety of transducers. Since sensitivity is directly related to the affinity of the ligand binding, high sensitivity excludes reversibility. Immunochemical methodology is still limited by the availability of selective and sensitive Abs. Future progress will be significantly accelerated by the application of recombinant **techniques** for Ab production. The main emphasis is directed toward the generation of recombinant Ab libraries, as they are already available for the generation of anti-HIV Ab fragments. It is not surprising therefore that immunochemical methodology, together with PCR-based **techniques**, belongs to the most promising branch of modern diagnosis.

L20 ANSWER 20 OF 41 MEDLINE DUPLICATE 10
ACCESSION NUMBER: 95229921 MEDLINE
DOCUMENT NUMBER: 95229921 PubMed ID: 7714189
TITLE: Detection of Yersinia pestis fraction 1 antigen with a fiber optic biosensor.
AUTHOR: Cao L K; Anderson G P; Ligler F S; Ezzell J
CORPORATE SOURCE: Geo-Centers Inc., Fort Washington, Maryland.
SOURCE: JOURNAL OF CLINICAL MICROBIOLOGY, (1995 Feb) 33 (2) 336-41.

Searcher : Shears 308-4994

Journal code: HSH; 7505564. ISSN: 0095-1137.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199505
ENTRY DATE: Entered STN: 19950524
Last Updated on STN: 19990129
Entered Medline: 19950518

AB A fiber optic biosensor was used to detect the fraction 1 (F1) antigen from Yersinia pestis, the etiologic agent of plague. The instrument employs an argon ion laser (514 nm) to launch light into a long-clad fiber and measures the fluorescence produced by an immunofluorescent complex formed in the evanescent wave region. This sensing area is a short section (12.5 cm) at the end of the **optical** fiber from which the cladding has been removed and in which the silica core has been tapered. Capture **antibodies**, which bind to F1 antigen, were immobilized on the core surface to form the basis of the sandwich fluoroimmunoassay. The ability to detect bound F1 antigen was provided by adding tetramethylrhodamine-**labeled** anti-plaque **antibody** to form fluorescent complexes. The evanescent wave has a limited penetration depth (< 1 lambda), which restricts detection of the fluorescent complexes bound to the fiber's surface. The direct correlation between the F1 antigen concentration and the **signal** provided an effective **method** for sample quantitation. This **method** achieved a high level of accuracy for determining F1 antigen concentrations from 50 to 400 ng/ml in phosphate-buffered saline, serum, plasma, and whole blood, with a 5-ng/ml limit of detection. Subsequent blind studies, which included serum samples from patients, yielded results in good agreement with **measurements** by **enzyme**-linked immunosorbent **assay**. A major advantage of the fiber optic biosensor is that results can be generated within minutes while isolating the user from hazardous samples. These factors favor development of this biosensor into a facile and rapid diagnostic **device**.

L20 ANSWER 21 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1994-316180 [39] WPIDS
DOC. NO. NON-CPI: N1994-248369
DOC. NO. CPI: C1994-144043
TITLE: Appts. and method for carrying out biological assays on antibodies, antigens, nucleic acids, etc. - generating a holographic image at a predetermined location in coherent light when an immobilised reactant becomes bound to a target reactant.
DERWENT CLASS: B04 D16 J04 S03 V07

INVENTOR(S): LICHTENWALTER, K; MELTON, H E
PATENT ASSIGNEE(S): (HEWP) HEWLETT-PACKARD CO
COUNTRY COUNT: 5
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5352582	A	19941004	(199439)*		
EP 651252	A2	19950503	(199522)	EN	
R: DE FR GB					
JP 07190938	A	19950728	(199539)		7
EP 651252	A3	19960320	(199624)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5352582	A	US 1993-144919	19931028
EP 651252	A2	EP 1994-302442	19940408
JP 07190938	A	JP 1994-288898	19941028
EP 651252	A3	EP 1994-302442	19940408

PRIORITY APPLN. INFO: US 1993-144919 19931028
AN 1994-316180 [39] WPIDS
AB US 5352582 A UPAB: 19941122
Appts. for detecting target reactant utilises a second reactant immobilised at selected locations on a support structure (212) in correspondence to a predetermined pattern, the immobilised reactant binding the target reactant when the two are brought into contact. A coherent light source (216) is used to illuminate the support structure and the predetermined pattern causes a holographic image to be generated when the reactants are bound. This image can be detected by detection means (215). Also claimed is a **method** for detecting the target reactant using the appts.

PREFERRED - One of the target and immobilised reactants is an **antibody** or antigen, a nucleic acid, an **enzyme**, a protein, or a polypeptide. The support structure is well (210) having the immobilised reactant bound to its bottom surface or a layer of porous material thicker than the wavelength of the coherent light, the immobilised reactant being dispersed throughout the layer. The predetermined pattern compensates for any distorting interfaces (220) between support structure and coherent light source. The holographic image is an image of a small bright object.

USE - **Appts**. and **method** are used in biological **assays** to **detect** the binding of an organic molecule of interest to a substrate. They are used, e.g. to detect and measure the binding of an **antibody** molecule to

a molecule carrying a partic. antigenic gp., one of the two species being covalently immobilised on the support and the other being free in soln.

ADVANTAGE - The use of a hologram eliminates any need for **optical** components to form a real image unlike a system based on the generation of a diffraction grating. The liq. meniscus (220) does not affect the result.

Dwg.4/4

L20 ANSWER 22 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1993-152871 [19] WPIDS
CROSS REFERENCE: 1992-300183 [36]; 1996-076885 [08]
DOC. NO. NON-CPI: N1993-117071
DOC. NO. CPI: C1993-068260
TITLE: Light sensitive thin film optical immunoassay device - comprises enzyme-antibody conjugate, provides highly sensitive detection of bacteria for diagnosis.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): BILODEAU, R J; BOGART, G R; CRIDER, D G; MAUL, D M; BLESSING, J; CROSBY, M; KELLEY, H; MILLER, B J
PATENT ASSIGNEE(S): (BIOS-N) BIOSTAR INC
COUNTRY COUNT: 18
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
AU 9225327	A	19930325	(199319)*		38
CA 2078897	A	19930402	(199324)		
EP 546222	A1	19930616	(199324)	EN	20
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
JP 05203650	A	19930810	(199336)		16
AU 658668	B	19950427	(199525)		
US 5418136	A	19950523	(199526)		67
EP 546222	B1	19970910	(199741)	EN	22
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
DE 69127628	E	19971016	(199747)		
ES 2109258	T3	19980116	(199810)		
JP 2834950	B2	19981214	(199904)		14
JP 11072495	A	19990316	(199921)		13
US 5955377	A	19990921	(199945)		
JP 3107787	B2	20001113	(200060)		13

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
AU 9225327	A	AU 1992-25327	19920923

CA 2078897	A		CA 1992-2078897	19920923
EP 546222	A1		EP 1991-308968	19911001
JP 05203650	A		JP 1992-254562	19920924
AU 658668	B		AU 1992-25327	19920923
US 5418136	A	CIP of	US 1992-923332	19920731
			US 1993-76719	19930610
EP 546222	B1		EP 1991-308968	19911001
DE 69127628	E		DE 1991-627628	19911001
			EP 1991-308968	19911001
ES 2109258	T3		EP 1991-308968	19911001
JP 2834950	B2		JP 1992-254562	19920924
JP 11072495	A	Div ex	JP 1992-254562	19920924
			JP 1998-198609	19920924
US 5955377	A	CIP of	US 1991-653052	19910211
		CIP of	US 1992-923090	19920731
		Cont of	US 1993-75693	19930610
			US 1995-403565	19950417
JP 3107787	B2	Div ex	JP 1992-254562	19920924
			JP 1998-198609	19920924

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 658668	B	Previous Publ.	AU 9225327
DE 69127628	E	Based on	EP 546222
ES 2109258	T3	Based on	EP 546222
JP 2834950	B2	Previous Publ.	JP 05203650
JP 3107787	B2	Previous Publ.	JP 11072495

PRIORITY APPLN. INFO: EP 1991-308968 19911001; US 1991-764319 19910924

AN 1993-152871 [19] WPIDS

CR 1992-300183 [36]; 1996-076885 [08]

AB AU 9225327 A UPAB: 20001123

A thin film optical immunoassay device (A) comprises a solid support substrate having: (a) an upper and lower surface; (b) an unlabelled liquid antibody (Ab) layer bound to the substrate on the upper surface; (c) at least one layer comprising an immobilised enzyme conjugate, on its upper surface; complexed with an analyte of interest and capable of interacting with an enzyme reactive delivery substance to form an insoluble reaction prod., where the conjugate layer and unlabelled Ab layer have a measurably increased mass change capable of precipitation by an agent applied as a substrate.

Also claimed are: (1) a process for detecting an analyte in a medium; (2) a diagnostic test kit for performing at least one thin film optical immunoassay.

USE - This immunoassay device is highly sensitive. The use of

Ab-enzyme conjugates in place of latex-reagent particles provides an improver sensitivity, particularly with selected substances for the enzyme which provide insol. precipitated prods.. Low levels of polysaccharide Ags can be detected, e.g. bacteria responsible for infections in man such as meningitis and streptococcus.

Dwg.1/1

ABEQ EP 546222 A UPAB: 19931116

A thin film **optical** immunoassay device (A) comprises a solid support substrate having (a) an upper and lower surface, (b) an unlabelled ligand **antibody** (Ab) layer bound to the substrate on the upper surface, (c) at least one layer comprising an immobilised **enzyme** conjugate, on its upper surface, complexed with an analyte of interest and capable of interacting with an **enzyme** reactive delivery substance to form an insoluble reaction prod., where the conjugate layer and unlabelled Ab layer have a measurably increased mass change capable of pptn. by an agent applied as a substrate.

Also claimed are (1) a process for detecting an analyte in a medium, (2) a diagnostic test kit for performing at least one thin film **optical** immunoassay.

USE - This immunoassay device is highly sensitive. The use of Ab-**enzyme** conjugates in place of latex-reagent particles provides an improved sensitivity, particularly with selected substrates for the **enzyme** which provide insoluble pptd. prods.. Low levels of polysaccharide Ags can be detected e.g. bacteria responsible for infections in man such as meningitis and Streptococcus.

Dwg.1/1

ABEQ JP 05203650 A UPAB: 19931122

ABEQ US 5418136 A UPAB: 19950705

Optical assay device for **detecting** presence of an analyte, partic. host produced **antibody** to HIV or hepatitis infection, comprises an **optically** active receptive surface consisting of a thin interference film, an attachment layer on top of the film, and a layer contg. specific binding agents to the analyte of interest. The surface (26) is supported on a pedestal (28) in a container (34), to which a second container (32) is hinged. The latter contains a plate (46) with two apertures (47, 49), beneath which filter paper (52) can be moved. Closing the container brings the filter paper into contact with the surface.

ADVANTAGE - Extremely small quantities, e.g., 2000 organisms can be detected.

Dwg.8E/18

ABEQ EP 546222 B UPAB: 19971013

Method for detecting an analyte of interest in a sample, comprising the steps of: (a) providing a thin film **optical** immunoassay device comprising a substrate which is non-polymeric,

non-particulate and non-latex, having an upper surface able to generate a **signal** and a lower surface, and supporting on its upper surface, a receptive material able to specifically bind with said analyte of interest, adding to said device the analyte of interest and an **enzyme labelled** secondary receptive material able to specifically bind with said analyte of interest; (b) contacting said **enzyme-labelled** secondary receptive material with a precipitating agent for a time period sufficient to cause precipitation of product from interaction of said precipitating agent and said **enzyme**; and (c) measuring the increase in **optical** thickness on the substrate of the **enzyme-labelled** secondary receptive material layer and the unlabelled receptive material layer, said increase being an indication of the amount of said analyte in said test sample.
Dwg.0/0

L20 ANSWER 23 OF 41 JAPIO COPYRIGHT 2001 JPO
ACCESSION NUMBER: 1993-099922 JAPIO
TITLE: IMMUNOCHEMICAL MEASURING **METHOD** FOR HUMAN GP130 AND **KIT** THEREFOR
INVENTOR: SAITO TAKASHI; FUTAKI KENSUKE; YASUKAWA KIYOSHI; KISHIMOTO CHUZO
PATENT ASSIGNEE(S): TOSOH CORP, JP (CO 000330)
KISHIMOTO CHUZO, JP (IN)
PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 05099922	A	19930423	Heisei	(5) G01N033-53

JP
APPLICATION INFORMATION
ST19N FORMAT: JP1991-282021 19911003
ORIGINAL: JP03282021 Heisei
SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: P, Sect. No. 1594, Vol. 17, No. 448, P. 18 (19930817)
AN 1993-099922 JAPIO
AB PURPOSE: To perform quick measurement by mixing a first material having affinity for human gp130, which is bonded to a solid supporting body, and a second material having affinity for the human gp130, which is bonded to a **label** material at the same time or later.
CONSTITUTION: As a first material having affinity for human gp130, which is bonded to a solid supporting body, the composite body of monoclonal **antibody** or polyclonal **antibody** for the human gp130, a human interleukin 6(IL6) and a human IL-6

receptor and the like are used. As a detectable **label** material, which is bonded to a second material, the **label** materials such as, e.g. fluorescence material, light emitting material and light absorbing material, which are used in an ordinary **immunoassay**, are used. The **measurement** is performed with an **optical detecting apparatus**. The first material having the affinity for the human gp130 is mixed with a sample. The second material having the affinity for the human gp130, which is bonded to the detectable **label** material, is mixed at the same time or later.

L20 ANSWER 24 OF 41 MEDLINE DUPLICATE 11
ACCESSION NUMBER: 94007162 MEDLINE
DOCUMENT NUMBER: 94007162 PubMed ID: 7691442
TITLE: Ultrasensitive time-resolved immunofluorometric assay of prostate-specific antigen in serum and preliminary clinical studies.
AUTHOR: Yu H; Diamandis E P
CORPORATE SOURCE: Department of Clinical Biochemistry, Toronto Hospital, Ontario, Canada.
SOURCE: CLINICAL CHEMISTRY, (1993 Oct) 39 (10) 2108-14. Journal code: DBZ; 9421549. ISSN: 0009-9147.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199311
ENTRY DATE: Entered STN: 19940117
Last Updated on STN: 19960129
Entered Medline: 19931112

AB We developed an ultrasensitive **method** for **measuring** prostate-specific antigen (PSA) in serum. The **assay** includes a capture monoclonal anti-PSA **antibody** coated to microtiter wells, a biotinylated rabbit polyclonal detection **antibody**, and alkaline phosphatase (ALP)-**labeled** streptavidin. The activity of ALP is measured with the substrate diflunisal phosphate; the released diflunisal forms highly fluorescent complexes with Tb(3+)-EDTA that are **quantified** with microsecond time-resolved **fluorometry**. The **assay** is precise and accurate and correlates well with the established Hybritech Tandem-PSA **kit**. Its distinguishing feature is extreme sensitivity (lowest limit of detection is 0.002 micrograms/L or 2 x 10(6) PSA molecules per assay). This is the most sensitive PSA **assay** reported thus far; we used it to **quantify** PSA in patients who had undergone radical prostatectomy. Many patients had < 0.01 micrograms/L PSA in their serum. This **method** could have important clinical applications in postsurgical early detection of

relapse or residual prostate cancer, as recently suggested in the literature (Clin Chem 1992;38:1930-2).

L20 ANSWER 25 OF 41 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.DUPLICATE 12

ACCESSION NUMBER: 93306603 EMBASE
DOCUMENT NUMBER: 1993306603
TITLE: Nonculture methods for diagnosis of disseminated candidiasis.
AUTHOR: Reiss E.; Morrison C.J.
CORPORATE SOURCE: Mol Mycol Sect, Mycotic Dis Branch, Div Mycotic Dis, Natl Ctr Infect Dis, Ctrs Disease Control and Prevention,Atlanta, GA 30333, United States
SOURCE: Clinical Microbiology Reviews, (1993) 6/4 (311-323). ISSN: 0893-8512 CODEN: CMIREX
COUNTRY: United States
DOCUMENT TYPE: Journal; General Review
FILE SEGMENT: 004 Microbiology
LANGUAGE: English
SUMMARY LANGUAGE: English

AB Nonculture **methods** to diagnose disseminated candidiasis (DC) are needed because blood cultures are nonproductive for 27% or more of patients with DC. Recent reports indicate the emergence of Candida (Torulopsis) glabrata, Candida parapsilosis, and Candida krusei as agents of DC in addition to Candida albicans and Candida tropicalis. The Candida species metabolite D-arabinitol, expressed as serum D-arabinitol/creatinine, is an indicator of DC in as many as two-thirds of patients studied. **Detection** is expedited by an enzymatic-**fluorometric assay kit** as an alternative to gas-liquid chromatography, but interference from mannitol may detract from test specificity. Polymerase chain reaction (PCR)-amplified Candida species DNA has been recovered from blood and urine samples from a small number of human subjects. PCR-based tests are promising but cumbersome prototypes. The sensitivity to detect 1 to 10 CFU/ml of blood has not been reliably achieved. **Immunoassay detection** of marker antigens for DC has proceeded on several fronts. A liposomal immunoassay **kit** for the 48-kDa enolase received a successful prospective clinical evaluation. Secreted aspartyl proteinase was detected in urine from immunosuppressed rabbits with DC, but data on human subjects are unavailable. Western blot (immunoblot) was used to detect antigenuria, and this **method** appears promising. The cell wall mannoprotein (mannan) of Candida species circulates in the low nanogram-per-milliliter range in DC, but frequent sampling is needed for **detection** during granulocytopenia. The incorporation in the sandwich **enzyme immunoassay** of **antibodies** of broad specificity, reflecting the epitopes of C. albicans and the mannan of emerging

Candida species, is necessary for maximal sensitivity.

L20 ANSWER 26 OF 41 MEDLINE
ACCESSION NUMBER: 93385198 MEDLINE
DOCUMENT NUMBER: 93385198 PubMed ID: 8373838
TITLE: Performance of a fully automated fluorometric enzyme immunoassay for serum myoglobin measurement.
AUTHOR: Clerico A; Del Chicca M G; Zucchelli G C; Salutini L; Mercuri A; Scarlattini M
CORPORATE SOURCE: CNR Institute of Clinical Physiology, University of Pisa, Italy.
SOURCE: JOURNAL OF NUCLEAR BIOLOGY AND MEDICINE, (1993 Jun) 37 (2) 83-7.
Journal code: A1N; 9110209. ISSN: 0368-3249.
PUB. COUNTRY: Italy
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199310
ENTRY DATE: Entered STN: 19931105
Last Updated on STN: 19931105
Entered Medline: 19931021

AB An automated **fluorometric enzyme immunoassay** system for the **determination** of serum myoglobin has been recently developed. This **method** is based on the sandwich immunoassay and uses two mouse monoclonal antimyoglobin **antibodies**; the first one is complexed onto glass fiber paper and the second is conjugated to an **enzyme** alkaline phosphatase which reacts with the substrate 4-methylumbelliferyl phosphate to generate a fluorescent product. Using a dedicated automated **apparatus** the time to the first result is eight minutes, with additional values being produced at one-minute intervals (about 50 samples/hour). We compared the analytical performance of this **fluorometric enzyme** immunoassay with that of a RIA set up in our laboratory for the routine assay of serum myoglobin. The automated **fluorometric enzyme** immunoassay showed lower between-assay variability (CV = 4.7% vs 13.8%) and higher sensitivity (0.3 ng/mL vs 7.2 ng/mL) than the manual RIA. Moreover, the two immunoassays gave similar results when serum samples of normal subjects and patients with coronary artery disease with or without acute myocardial infarction (AMI) were assayed (**fluorometric** immunoassay = -0.7 + 0.851 RIA, r = 0.991, n = 137). In conclusion, the automated **fluorometric enzyme** immunoassay tested in the present study produces reliable clinical results with a rapid turnaround time and therefore can be recommended for use in the early detection of AMI in a laboratory of Coronary Care Unit.

L20 ANSWER 27 OF 41 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 93313073 EMBASE
DOCUMENT NUMBER: 1993313073
TITLE: A fluorometric enzyme-linked immunosorbent assay for serological diagnosis of Helicobacter pylori infection.
AUTHOR: Danielli E.
CORPORATE SOURCE: Ricerca e Sviluppo, Eurospital SpA, via Flavia 122,34147 Trieste, Italy
SOURCE: European Journal of Gastroenterology and Hepatology, (1993) 5/SUPPL. 2 (S57-S59).
ISSN: 0954-691X CODEN: EJGHES
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Conference Article
FILE SEGMENT: 004 Microbiology
026 Immunology, Serology and Transplantation
048 Gastroenterology
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Objective: To develop a **fluorometric enzyme** -linked immunosorbent **assay** to **detect** immunoglobulin **antibodies** to Helicobacter pylori. Design: A sensitive and specific antigen preparation was obtained by using non-ionic and zwitterionic detergents. **Methods**: Serological and histological diagnoses were compared in 168 subjects. Results: The sensitivity, specificity, positive predictive and negative predictive values for this serological test were, respectively, 94.4%, 86.9%, 89.8% and 91.7%. Conclusions: The results demonstrate that this test **kit** is highly reliable by comparison with histological and endoscopic findings.

L20 ANSWER 28 OF 41 MEDLINE DUPLICATE 13
ACCESSION NUMBER: 93058099 MEDLINE
DOCUMENT NUMBER: 93058099 PubMed ID: 1432369
TITLE: Single point quantification of antibody by ELISA without need of a reference curve.
AUTHOR: Dopatka H D; Giesendorf B
CORPORATE SOURCE: Research Laboratories of Behringwerke AG, Marburg, Germany.
SOURCE: JOURNAL OF CLINICAL LABORATORY ANALYSIS, (1992) 6 (6) 417-22.
Journal code: JLA; 8801384. ISSN: 0887-8013.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199212
ENTRY DATE: Entered STN: 19930122

Last Updated on STN: 19930122
Entered Medline: 19921222

AB A new **method** for the **quantification** of **antibodies** in the **enzyme**-linked immunosorbent **assay** is described. This procedure replaces titer **determinations** based on end-point dilution of the **antibody** under investigation. Here, the sample is tested in a single dilution and the **optical** density (OD) obtained is used in the equation log10 titer = alpha.OD beta. The titer can then be calculated by inserting into the formula the values for the constants alpha and beta, which are specified by the manufacturer for each separate batch of **kit** reagents. This so-called alpha-**method** saves time and reagents while providing results which are equal to the titration **method** in accuracy and superior in precision. The alpha-**method** is also a simpler and reliable alternative to the use of standard or reference curves for the quantification of the **antibodies** in I.U./ml.

L20 ANSWER 29 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1991-281612 [38] WPIDS
CROSS REFERENCE: 1991-088392 [13]; 1993-264216 [33]; 1994-082751 [10]
DOC. NO. NON-CPI: N1991-215234
DOC. NO. CPI: C1991-122078
TITLE: Collecting substances from oral cavity for testing - using absorbent pad impregnated with the salts of hypertonic soln..
DERWENT CLASS: B04 D16 P31 S03
INVENTOR(S): GAVOJDEA, S; GOLDSTEIN, A S; ZOGG, D F
PATENT ASSIGNEE(S): (EPIT-N) EPITOPE INC
COUNTRY COUNT: 26
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9113355	A	19910905	(199138)*		
RW: AT BE CH DE DK ES FR GB GR IT LU NL SE					
W: AU BR CA FI HU JP KR NO SU					
AU 9174609	A	19910918	(199150)		
US 5103836	A	19920414	(199218)		16
AU 9169963	A	19920730	(199238)#		
FI 9203839	A	19920827	(199247)		
EP 516746	A1	19921209	(199250)	EN	41
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
NO 9203360	A	19921021	(199304)		
BR 9106070	A	19930202	(199309)		
HU 63253	T	19930728	(199336)		

JP 05506925	W	19931007 (199345)		14
US 5335673	A	19940809 (199431)		14
AU 653930	B	19941020 (199443)		
WO 9113355	A3	19911003 (199509)		
EP 516746	B1	19950830 (199539)	EN	31
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE				
DE 69112610	E	19951005 (199545)		
ES 2080944	T3	19960216 (199614)		
JP 2535116	B2	19960918 (199642)		13
IE 74952	B	19970813 (199745)		
MX 183830	A	19970120 (199816)		
CA 2076754	C	20000725 (200047)	EN	
KR 168688	B1	19990501 (200051)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 5103836	A		US 1991-641739	19910115
AU 9169963	A		AU 1991-69963	19910125
FI 9203839	A		WO 1991-US1121	19910227
			FI 1992-3839	19920827
EP 516746	A1		EP 1991-905721	19910227
			WO 1991-US1121	19910227
NO 9203360	A		WO 1991-US1121	19910227
			NO 1992-3360	19920827
BR 9106070	A		BR 1991-6070	19910227
			WO 1991-US1121	19910227
HU 63253	T		WO 1991-US1121	19910227
			HU 1992-2779	19910227
JP 05506925	W		JP 1991-505985	19910227
			WO 1991-US1121	19910227
US 5335673	A	CIP of	US 1989-410401	19890921
		CIP of	US 1990-486415	19900228
		Cont of	US 1991-641739	19910115
		Cont of	US 1992-865054	19920408
			US 1993-26217	19930301
AU 653930	B		AU 1991-74609	19910227
WO 9113355	A3		WO 1991-US1121	19910227
EP 516746	B1		EP 1991-905721	19910227
			WO 1991-US1121	19910227
DE 69112610	E		DE 1991-612610	19910227
			EP 1991-905721	19910227
			WO 1991-US1121	19910227
ES 2080944	T3		EP 1991-905721	19910227
JP 2535116	B2		JP 1991-505985	19910227
			WO 1991-US1121	19910227
IE 74952	B		IE 1991-677	19910228

MX 183830	A	MX 1991-24749	19910228
CA 2076754	C	CA 1991-2076754	19910227
		WO 1991-US1121	19910227
KR 168688	B1	WO 1991-US1121	19910227
		KR 1992-702084	19920828

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 516746	A1	Based on	WO 9113355
BR 9106070	A	Based on	WO 9113355
HU 63253	T	Based on	WO 9113355
JP 05506925	W	Based on	WO 9113355
US 5335673	A	CIP of	US 5022409
		Cont of	US 5103836
AU 653930	B	Previous Publ.	AU 9174609
		Based on	WO 9113355
EP 516746	B1	Based on	WO 9113355
DE 69112610	E	Based on	EP 516746
		Based on	WO 9113355
ES 2080944	T3	Based on	EP 516746
JP 2535116	B2	Previous Publ.	JP 05506925
		Based on	WO 9113355
CA 2076754	C	Based on	WO 9113355

PRIORITY APPLN. INFO: US 1991-641739 19910115; US 1990-486415 19900228; US 1989-410401 19890921; AU 1991-69963 19910125; US 1992-865054 19920408; US 1993-26217 19930301

AN 1991-281612 [38] WPIDS

CR 1991-088392 [13]; 1993-264216 [33]; 1994-082751 [10]

AB WO 9113355 A UPAB: 20001016

The following are claimed: (A) a method of collecting substances from an oral cavity for testing comprising: (a) inserting an absorbent pad impregnated with the salts of a hypertonic soln., where the salts are in an effective conc. in the pad to recover a high concn. of the substances, into the oral cavity, (b) removing the pad from the oral cavity and (c) preserving the pad for subsequent removal of the collected substances from the pad for analysis testing; the pad may be stored in a container including a preservative soln. contg. e.g. chlorhexadine gluconate; the hypertonic soln. may include a blocking agent, e.g. albumin or gelatin; (B) a pad for collecting substances from an oral cavity for testing an absorbent material impregnated with the salts of a hypertonic soln., where the salts are in an effective concn. in the pad to recover a high concn. of the substances; (C) a container for storing collected substances for subsequent testing comprising an

open upper end adapted to be sealed with a removable stopper and a lower end having an opening communicating the interior of the container with the outside, the opening being selectively sealed during storage of the substances and unsealed for removal of the collected substances for subsequent testing; etc..

USE - The pad contg. the hypertonic soln. impregnated can collect high concns. of analytes and immunoglobulins. The method can be used for testing for substances such as cotinine, glucose, theophylline, cocaine, beta 2-microglobulin, Hepatitis B surface antigens, beta-human chorionic gonadotropin and immunoglobulins, e.g. antibody to HIV-1. @(41pp Dwg.No.7/10)@

ABEQ US 5103836 A UPAB: 19930928

Collecting swabs from the mouth comprises inserting an absorbent pad impregnated with salts of a hypertonic soln., so that salival fluid is collected on the pad; and transfer of the pad to a tube, which is sealed prior to analysis. Tubes with screw caps to enclose the pads are described. The saliva samples are subjected to immunoanalysis, e.g. the ELISA test.

USE - The prods. are aids for rapid clinical analysis of immunoglobulins, antigens, **antibodies**, etc.

ABEQ JP 05506925 W UPAB: 19931220

A solid support **immunoassay** system for the **determination** of an **antibody** or an antigen in a sample, comprises (a) an interferometric **signal** from an **optical** source: (b) a solid support coated with at least one substance selected from an **antibody**, an **antibody** binder and an antigen, and having at least one region immersed in a soln. contg. a sample, whereby the corresp. antigen or **antibody** can be complexed on the solid support; (c) a **device** adapted to measure the interferometric **signal** after its propagation through the solid support; and (d) a measuring **device** to record and process the interferometric **signal** to determine the deg. of attentuation of the interferometric **signal** at a wavelength corresp. to an absorption characteristic of the antigen-**antibody** complex.

USE/ADVANTAGE - Useful for the simultaneous determination of multiple analytes in a single heterogeous immunoassay test.

ABEQ US 5335673 A UPAB: 19940921

Preferentially collecting mucosal transudate from an oral cavity for testing comprises (a) inserting an absorbent pad into the cavity, (6) contacting the pad with the oral mucosa without masticating the pad, (c) removing the pad from the cavity and (d) preserving the pad for subsequent removal of the transudate.

Pref., the pad is stored in a container when removed from the cavity. The container includes a preservative soln., esp. chlorhexidine gluconate. The mucosal transudate contains substances which are analytes having a mol. wt. of 176-950,000. The analytes comprise cotinine, glucose, theophylline, cocaine,

beta-2-microglobulin, hepatitis B surface antigens, beta-human chlorionic gonadotropin and/or immunoglobulins. Also claimed is a kit for preferentially collecting and storing mucosa.

USE - For immunological testing for screening for diseases.

Dwg.4/10

ABEQ EP 516746 B UPAB: 19951004

A **method** of collecting substances from an oral cavity for testing comprising the steps of: (a) inserting an adsorbent pad; (b) removing the pad from the oral cavity, and (c) preserving the pad for subsequent removal of the collected substances from the pad for analysis testing, characterised in that the absorbent pad is impregnated with the salts of a hypertonic solution.

Dwg.3/10

L20 ANSWER 30 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1991-198110 [27] WPIDS
DOC. NO. NON-CPI: N1991-151376
DOC. NO. CPI: C1991-085946
TITLE: Immunoassay device to measure immunity using fluorescence - comprises rate measuring device to measure antigen-antibody reaction rate by detecting fluorescence emitted from labelled substrate.
DERWENT CLASS: B04 D16 J04 S03
PATENT ASSIGNEE(S): (DAIK) DAIKIN KOGYO KK
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 03123863	A	19910527	(199127)*		
JP 2636439	B2	19970730	(199735)		10

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 03123863	A	JP 1989-263335	19891009
JP 2636439	B2	JP 1989-263335	19891009

FILING DETAILS:

PATENT NO	KIND		PATENT NO
JP 2636439	B2	Previous Publ.	JP 03123863

PRIORITY APPLN. INFO: JP 1989-263335 19891009
AN 1991-198110 [27] WPIDS
AB JP 03123863 A UPAB: 19930928

In immunoassay, the reaction rate measured data is obtd. according to the rate measurement **method**; on the basis of this data, the offset value at the time of reaction is calculated; and, using the offset value obtd., the immunoassay according to the end point measuring **method** is performed.

The **immunoassay device** comprises a rate **measuring device** to obtain the antigen-**antibody** reaction rate measured data according to the rate measuring **method**; an offset value calculating **device** to calculate the offset value by extrapolating an antigen-**antibody** reaction curve down to the reaction start time using the antigen-**antibody** reaction rate data obtd.; and an end point measuring **device** which obtains the reaction measured data at the point when the antigen-**antibody** reaction is almost in equilibrium, calculates the difference between the reaction measured data and the offset value, and output the difference as the antigen-**antibody** reaction measured data.

USE/ADVANTAGE - Used to measure the presence or absence of immunity and the degree of immunity on the basis of the intensity of fluorescence emitted from a **labelled** fluorescent substance by exciting the **labelled** fluorescent substance using evanescent wave component generated by propagating excitation light making total reflection in an **optical** waveguide. Immunoassay can be made only when satisfactory measuring accuracy can not be obtained by the rate measuring **method**. Thus, the time required can be shortened when making immunoassay of many samples.

0/7

L20 ANSWER 31 OF 41 MEDLINE DUPLICATE 14

ACCESSION NUMBER:	91366491 MEDLINE
DOCUMENT NUMBER:	91366491 PubMed ID: 1890544
TITLE:	Direct enzyme-linked immunosorbent assay: a simple immunoassay using Leishmania donovani promastigote for diagnosis of kala-azar.
AUTHOR:	Mukerji K; Pal A; Basu D; Naskar K; Mallick K K; Ghosh D K
CORPORATE SOURCE:	Department of Immunochemistry, Leishmania Group, Indian Institute of Chemical Biology, Calcutta.
SOURCE:	JOURNAL OF CLINICAL LABORATORY ANALYSIS, (1991) 5 (4) 299-301. Journal code: JLA; 8801384. ISSN: 0887-8013.
PUB. COUNTRY:	United States Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:	English
FILE SEGMENT:	Priority Journals
ENTRY MONTH:	199110

ENTRY DATE: Entered STN: 19911103
Last Updated on STN: 19911103
Entered Medline: 19911017

AB For immunodiagnosis of kala-azar **enzyme**-linked immunosorbent assay (ELISA) and immunofluorescence testing (IFAT) are commonly used. In IFAT, whole parasite antigen and in ELISA the soluble antigen have been used. Preparation of ELISA antigen has certain inherent difficulties. We have developed a simple, specific, and **quantitative immunoassay**, "direct ELISA" for diagnosis of kala-azar. Intact formalinized promastigote suspension has been used to combine with the **antibodies** of the patient sera. The colour developed in the supernatant by the **enzyme** conjugate combined on the parasite surface was measured with a spectrophotometer. The test was able to detect kala-azar-specific **antibodies** at very high serum dilution and could discriminate between kala-azar and the common diseases prevalent in Asia. The **optical** densities of the sera of different control groups were significantly low. The **method** has potential for use as a diagnostic tool in less well **equipped** laboratories.

L20 ANSWER 32 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1990-247760 [33] WPIDS
DOC. NO. NON-CPI: N1990-192430
DOC. NO. CPI: C1990-106966
TITLE: Highly sensitive immunological detection method - esp. for low mol.wt. pollutants, with extra wash stage between addn. of sample and tracer.
DERWENT CLASS: C03 D15 J04 S03
INVENTOR(S): GRONERT, R; MIES, W; PFEIFFER, W
PATENT ASSIGNEE(S): (PFEI-N) PFEIFFER BIOANALYTI
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DE 4000773	A	19900809	(199033)*		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 4000773	A	DE 1990-4000773	19900112

PRIORITY APPLN. INFO: DE 1990-4000773 19900112
AN 1990-247760 [33] WPIDS
AB DE 4000773 A UPAB: 19930928

In an immunological detection **method**, the new feature is that between addn. of sample antigen and tracer, additional washing steps are carried out.

Pref. the **method** can be applied to systems where a radioisotope, **enzyme**, fluorescent substance or an electronic-**signal** generating cpd. is used as **label**.

USE/ADVANTAGE - The **method** is used to detect low mol.wt. cpds., esp. environmentally important cpds. such as plant protection agents in drinking water. The extra washing step eliminates both cooperative and competitive effects in the test, so that reagent requirements are relaxed, esp. unpurified polyclonal **antibodies** can be used and the degree of antigen substitution on the **enzyme** is less critical. The detection sensitivity is increased, e.g. a limit of 1ng/l in an **enzyme-immunoassay** system using a single photo-**optical measurement**. The test **kits** are simpler and less expensive to produce. @

0/1

L20 ANSWER 33 OF 41 JAPIO COPYRIGHT 2001 JPO
ACCESSION NUMBER: 1990-025749 JAPIO
TITLE: **METHOD** AND **DEVICE** FOR **DETECTING** START POINT OF REACTION IN FLUORESCENT **IMMUNOASSAY**
INVENTOR: HASEGAWA MASASHI; SHIGEMORI KAZUHISA
PATENT ASSIGNEE(S): DAIKIN IND LTD, JP (CO 000285)
PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 02025749	A	19900129	Heisei	(5) G01N033-543

JP
APPLICATION INFORMATION
ST19N FORMAT: JP1988-175779 19880714
ORIGINAL: JP63175779 Heisei
SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: P, Sect. No. 1032, Vol. 14, No. 169, P. 141 (19900330)
AN 1990-025749 JAPIO
AB PURPOSE: To exactly detect the start point of the fluorescent immune reaction by injecting a measuring reagent added independently with a fluorescent **dye** in addition to a fluorescent **labeling antibody** to a cuvette and detecting the discontinuous point of the fluorescent intensity detecting **signal**.
CONSTITUTION: Stimulating light is introduced from a stimulating

light source 1 into a light guide 4 of the cuvette 5 fixed with the **antibody** 6. An **optical** filter 8 and a photodetector 7 are installed to the side of the light guide 4 opposite to the cuvette 5. The soln. to be measured contg. only the antigen is first injected into the cuvette 5, then the soln. to be measured prepd. by adding the fluorescent **dye** independently thereto in addition to the fluorescent **labeling antibody** is injected into the cuvette 5. The fluorescent intensity is discontinuously increased in this way by the influence of the independently added fluorescent **dye** and, therefore, the electric **signal** from a photodetector 7 is fed to a differentiating circuit 9 and a peak timing forming circuit 10, by which the reaction start point **signal** is formed.

L20 ANSWER 34 OF 41 MEDLINE DUPLICATE 15
ACCESSION NUMBER: 90253168 MEDLINE
DOCUMENT NUMBER: 90253168 PubMed ID: 2187406
TITLE: Salmonella-TEK, a rapid screening method for Salmonella species in food.
AUTHOR: Van Poucke L S
CORPORATE SOURCE: Laboratory of Pharmaceutical Microbiology and Hygiene, State University of Ghent, Belgium.
SOURCE: APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (1990 Apr) 56 (4) 924-7.
Journal code: 6K6; 7605801. ISSN: 0099-2240.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199006
ENTRY DATE: Entered STN: 19900720
Last Updated on STN: 19900720
Entered Medline: 19900619

AB A micro-**enzyme**-linked immunosorbent **assay** (micro-ELISA) using the Salmonella-TEK **screen kit** was tested for the detection of Salmonella spp. in pure cultures as well as in 30 artificially contaminated food samples and in 45 naturally contaminated food samples. Different raw, fleshy foods and processed foods were used as test products. The artificially contaminated minced meat samples were preenriched in buffered peptone water, and after incubation, different selective enrichment broths were tested. The micro-ELISA **optical** density values after enrichment and isolation of the different broths were very analogous. The quickest **method** to detect Salmonella spp. in different foods is to enrich them with Salmosyst broth, which reduces the total analysis time to 31 h. The Salmonella-TEK **kit** for Salmonella spp. provides a promising test for the

detection of Salmonella antigens in food even when they are present at a low concentration (1 to 5 CFU/25 g). The cross-reaction of the anti-Salmonella **antibodies**, especially to other gram-negative bacteria, is nil.

L20 ANSWER 35 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1989-306015 [42] WPIDS
DOC. NO. NON-CPI: N1989-233146
DOC. NO. CPI: C1989-135625
TITLE: Enzyme immunochemical determination of angiotensin II - by adding sample contg. angiotensin II and soln. of angiotensin II labelled with beta-D-galactosidase in antibody and fluorometric determn..
DERWENT CLASS: B04 D16 S03
PATENT ASSIGNEE(S): (KISP) KISSEI PHARM CO LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 01227961	A	19890912	(198942)*		7

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 01227961	A	JP 1988-55596	19880309

PRIORITY APPLN. INFO: JP 1988-55596 19880309
AN 1989-306015 [42] WPIDS
AB JP 01227961 A UPAB: 19930923
A **method** for **enzyme** immunochemical determination of angiotensin II comprises adding a sample contg. angiotensin II and a soln. of angiotensin II **labelled** with beta-D-galactosidase in anti-angiotensin II **antibody**, and measuring **fluorometrically** the enzymatic activity of beta-D-galactosidase -angiotensin II bound competitively with the **antibody** to determine the content of the angiotensin II in the sample.

USE/ADVANTAGE - The **method** is useful for **determining** angiotensin II. The **immunoassay** has high sensitivity and can **determine** angiotensin II of 0.45-1000 pg. (absolute amt.). As the concn. of angiotensin in blood plasma is usually 10-100 pg/ml., the determination can be carried out using about 0.5-1 ml. of blood plasma. The **method** can be simply, safely and conveniently carried out

without requiring special **appts**.. The **enzyme** immunoassay by one **antibody method** using microplate does not need complex B/F sepn. and is effective for the analysis of a large amt. of samples.

In an example, anti-angiotensin II **antibody** prepd. form rabbit blood serum immunised by angiotensin II-bovine blood serum albumin complex is used as the **antibody**, and 4-methylumbelliferyl- beta-D-galactoside is used as the substrate of the **labelling enzyme**. beta-D-galactosidase-angiotensin II is made by treating N-(m-maleimidobenzoyloxy) angiotensin II with beta-D-galactosidase in a molar ratio of 21:1. 0/0

L20 ANSWER 36 OF 41 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1989-286744 [40] WPIDS
CROSS REFERENCE: 1987-095430 [14]; 1990-291955 [39]
DOC. NO. NON-CPI: N1989-218935
DOC. NO. CPI: C1989-126907
TITLE: Chromatographic test device for analyte(s) - have positive control area and analyte binding area shaped to form known symbols.
DERWENT CLASS: B04 J04 S03
INVENTOR(S): BROWN, W E; CLEMENS, J M; SAFFORD, S E
PATENT ASSIGNEE(S): (ABBO) ABBOTT LAB
COUNTRY COUNT: 17
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 335244	A	19891004	(198940)*	EN	20
R: AT BE CH DE ES FR GB GR IT LI NL SE					
AU 8931564	A	19890928	(198947)		
JP 01299464	A	19891204	(199003)		
US 4916056	A	19900410	(199020)		14
US 5008080	A	19910416	(199118)		15
US 5160701	A	19921103	(199247)		16
KR 9209420	B1	19921016	(199412)		
CA 1332807	C	19941101	(199444)		
EP 335244	B1	19941228	(199505)	EN	13
R: AT BE CH DE ES FR GB GR IT LI NL SE					
DE 68920176	E	19950209	(199511)		
ES 2068844	T3	19950501	(199524)		
JP 2818191	B2	19981030	(199848)		14

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE

EP 335244	A		EP 1989-105114	19890322
JP 01299464	A		JP 1989-76382	19890327
US 4916056	A		US 1988-173979	19880328
US 5008080	A		US 1990-475591	19900206
US 5160701	A	CIP of	US 1986-831013	19860218
		Cont of	US 1988-173979	19880328
		Cont of	US 1990-475591	19900206
			US 1991-685345	19910415
KR 9209420	B1		KR 1989-3817	19890327
CA 1332807	C		CA 1989-594550	19890323
EP 335244	B1		EP 1989-105114	19890322
DE 68920176	E		DE 1989-620176	19890322
			EP 1989-105114	19890322
ES 2068844	T3		EP 1989-105114	19890322
JP 2818191	B2		JP 1989-76382	19890327

FILING DETAILS:

PATENT NO	KIND		PATENT NO
US 5160701	A	Cont of	US 4916056
		Cont of	US 5008080
DE 68920176	E	Based on	EP 335244
ES 2068844	T3	Based on	EP 335244
JP 2818191	B2	Previous Publ.	JP 01299464

PRIORITY APPLN. INFO: US 1988-173979 19880328; US 1985-784416 19851004; US 1986-832013 19860218; US 1986-831013 19860218; US 1990-475591 19900206; US 1991-685345 19910415

AN 1989-286744 [40] WPIDS

CR 1987-095430 [14]; 1990-291955 [39]

AB EP 335244 A UPAB: 19960122

Chromatographic test appts. is used for determining the presence or amt. of analyte in a fluid sample in a binding assay has a porous substrate having a reaction site, a site for contacting a fluid sample such that the sample can be transported by capillarity or wicking to the reaction site and a label for detecting a result.

The reaction site has a positive control area contg. immobilised binding reagent for label regardless of the presence of analyte in the sample, an analyte binding area contg. immobilised binding reagent for analyte and a negative control area. The positive control area and the analyte binding area are shaped so that together in the presence of label they form a known symbol representing a positive result in the presence of analyte in the sample. The positive control area is shaped so that, taken alone in the presence of label, it forms a 2nd known symbol representing a negative result.

USE/ADVANTAGE - Incorporates a procedural control to provide a measure of validation of materials for each assay run and enable comparative interpretation of results. The device is used esp. for enzyme immunoassay of biological fluids and prods..

Dwg.1/7

Dwg.1/7

ABEQ DE 3686116 G UPAB: 19930923

A material useful in a binding assay to determine the presence or amt. of an analyte in a test sample, comprises a porous matrix of fibres and spherical, solid particles having an average dia. of 0.1-10 microns, the particles being retained and immobilised within the matrix upon the fibres.

An assay device formed using the material may also have a barrier layer composed of a polyethylene weave material. Pref. the particles have on their surfaces a substance capable of reaction with the analyte in the sample.

USE/ADVANTAGE - The material and **devices** are esp. used in immunoassays to improve conventional solid-phase immunoassay **techniques** for performing colorimetric or other EIA of biological fluids. The **devices** are easy to use and require fewer procedural steps and less complex **assay technique** and provide rapid **quantitative**, semi-**quantitative** or qualitative results for testing unknown samples. The material and **devices** can also be used as controls e.g. to assess the accuracy and reliability of such assays.

ABEQ EP 217403 B UPAB: 19930923

A material useful in binding assay to determine the presence or amount of an analyte in a test sample, which material comprises a porous matrix of fibres and a plurality of substantially spherical solid particles having an average diameter of from 0.1 to micrometres, characterised in that said particles are retained and immobilised within said matrix upon the fibres thereof, and in that the average diameter of said particles is less than the average pore size of said matrix.

0/5

ABEQ US 4916056 A UPAB: 19930923

Enzyme immunoanalytical device comprises a container vessel contg. one or more immobilised active reagents on an inert, solid matrix; body fluid samples are readily placed in the reaction zone, and after incubation, the matrix is washed to remove excess body fluid, soluble reaction prods., contaminants, etc.; changes in colour or **optical** absorption are easily monitored with spectrophotometric or other accessories, and positive or negative results are emphasised with a visual display.

USE - The prods. are aids for rapid clinical analysis and diagnosis.

ABEQ US 5008080 A UPAB: 19930923

Device comprises a reaction site having a negative control area, a

positive control area within the negative control area contg. immobilised binding reagent for a **label**, and an analyte binding area within the negative control area contg. immobilised binding reagent for analyte in a sample. The positive control area is shaped so that, in the presence or absence of analyte in a sample, a minus symbol is displayed representing a negative result of a valid assay. The analyte binding area is shaped so that, taken together with the minus symbol in the presence of the **label** and analyte, a plus symbol is formed representing a positive result of a valid assay. The negative control area pref. comprises an area free of any reagent reacting with the analyte or **label**.

USE - Used in a binding assay to determine the presence or amt. of an analyte in a fluid sample by using a **label** producing a detectable response (claimed).

ABEQ US 5149622 A UPAB: 19930923

Amt. of analyte in a fluid is determined, by (a) incubating with spherical solid particles of dia. 0.1-5 microns which have a binding substance specific for the analyte immobilised upon its surfaces, such that analyte binds to form an analyte/binding substance complex on the particles; and (b) contacting a porous fibrous matrix with the incubated particles, such that particle dia. is less than the particle retention rating of the matrix, and at least part of the incubated particles become retained and immobilised within the matrix upon at least part of the fibres; (c) contacting the matrix obtd. with a **labelled** substance specific for the analyte, to produce a detectable response with the analyte, and an indicator, such that **labelled** substance becomes bound to the complex on the particles; (d) washing unbound **labelled** substance from the matrix; (e) contacting matrix with indicator; and (f) detecting response as a function of amt. of analyte in the sample.

USE - For detecting presence or amt. of antigens or **antibodies** in a sample.

3/5

ABEQ US 5160701 A UPAB: 19930923

In solid phase binding **assays** to **determine** the presence or amount of an analyte in test samples, partic. antigens, **antibodies**, or other ligands or DNA segments, a **device** is used having a disc-shaped reaction matrix (12) with sample contacting surface (12a). The matrix is enclosed within a carrier (14) of plastic and is backed by barrier (18) and absorbent (20) material. Above the reaction surface (12a) is a filter (22) of porous material.

ADVANTAGE - Simple device producing reproducible results without wet chemical steps.

3c/7

ABEQ EP 335244 B UPAB: 19950207

A test **device** for use in a binding **assay** to **determine** the presence or amount of an analyte in a fluid

sample upon the addition of sample, suitable reagents and **label** to a reaction site, wherein said reaction site has a first control area (30), a second control area (32) including means for displaying a **detectable** response indicative of a valid **assay** result, and an analyte binding area (34) including means for displaying a detectable result indicative of the presence of amount of the analyte in the fluid sample; characterised in that said **device** is a porous chromatographic strip (11) having a contact site distinct from said reaction site for contacting a fluid sample and means (12) for transporting the fluid sample by capillarity or wicking to the reaction site, such that said fluid sample flows across said reaction site from edge to edge; and in that the detectable symbol produced by the second control area (32) interacts with the detectable symbol produced by the analyte binding area (34) in the presence of analyte to form an interactive symbol representative of a positive result, while the symbol produced by the second control area (32) taken alone is representative of a negative result.
Dwg.1,2/2

L20 ANSWER 37 OF 41 JAPIO COPYRIGHT 2001 JPO
ACCESSION NUMBER: 1989-274066 JAPIO
TITLE: **ENZYME** IMMUNOASSAY **METHOD**
INVENTOR: MAZAKI MITSUO; KAWAJI HARUHIKO
PATENT ASSIGNEE(S): NIPPON CHEMIPHAR CO LTD, JP (CO 352246)
PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 01274066	A	19891101	Heisei	(4) G01N033-543

JP
APPLICATION INFORMATION
ST19N FORMAT: JP1988-103217 19880426
ORIGINAL: JP63103217 Heisei
SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: P, Sect. No. 995, Vol. 14, No. 4, P. 158 (19900125)
AN 1989-274066 JAPIO
AB PURPOSE: To shorten operating time to a large extent and to make it possible to perform accurate measurement, by inserting a film wherein antigen or **antibody** is fixed and a central part is hollow into the well of a microplate.
CONSTITUTION: Commercially available microplates can be used as it is. It is desirable that the shape of a film is the same as the shape of the bottom surface of the well of the microplate. The films are not especially limited when cavities are provided at the central part of the film and the shapes of the films do not hinder a light

path in measurement. However, it is desirable to use films having a circular pattern. As an antigen or **antibody** which is to be fixed on the film, the antigen or the **antibody** to which allergen is bonded are desirable. As the **measuring methods, enzyme immunoassay**, light emitting **immunoassay**, fluorescent **immunoassay** and the like which are ordinarily used can be used. The measuring procedures are as follows; e.g., at first the film is inserted into the well of the microplate, then a specimen of body fluid incorporating the antigen or the **antibody** is injected, cleaning is performed, then a **label antibody** is inputted, cleaning is performed, and the measurement is performed with **enzyme** reaction and an **optical device**.

L20 ANSWER 38 OF 41 MEDLINE DUPLICATE 16
ACCESSION NUMBER: 89327484 MEDLINE
DOCUMENT NUMBER: 89327484 PubMed ID: 2754003
TITLE: Development of quality control procedures for the human immunodeficiency virus type 1 antibody enzyme-linked immunosorbent assay.
AUTHOR: Kudlac J; Hanan S; McKee G L
CORPORATE SOURCE: Public Health Laboratory, Oklahoma State Department of Health, Oklahoma City 73124.
SOURCE: JOURNAL OF CLINICAL MICROBIOLOGY, (1989 Jun) 27 (6) 1303-6.
Journal code: HSH; 7505564. ISSN: 0095-1137.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198909
ENTRY DATE: Entered STN: 19900309
Last Updated on STN: 19970203
Entered Medline: 19890901

AB A standardized pool of human sera that was positive for human immunodeficiency virus type 1 (HIV-1) **antibody** was developed. This positive control serum was used to analyze test differences among eight laboratories, among the HIV-1 **antibody** test **kits** of three different manufacturers, among different lots of the same test **kit**, and among pipetting **devices** and **techniques**. The standardized pool of human sera was tested 327 times by the different laboratories. In terms of positive tests, a reproducibility of 99.69% was achieved; however, significant test variance among laboratories, among test **kit** lots, and among pipetting **devices** and **techniques** could be demonstrated if the tests were compared on the basis of the net

positive **optical** density (OD) value. This value was calculated by subtracting the cutoff OD value (i.e., the value below which an OD value was considered negative for HIV-1 **antibody**) from the observed OD value of the standardized pool of human sera. The results obtained suggest that this strategy can be used for proficiency testing, for **monitoring** the quality of HIV-1 **antibody enzyme**-linked immunosorbent **assay** reagents, and for evaluating pipetting **devices** and **techniques**.

L20 ANSWER 39 OF 41 MEDLINE
ACCESSION NUMBER: 88163882 MEDLINE
DOCUMENT NUMBER: 88163882 PubMed ID: 3280041
TITLE: On-line sensors for coagulation proteins: concept and progress report.
AUTHOR: Andrade J D; Herron J; Lin J N; Yen H; Kopecek J; Kopeckova P
CORPORATE SOURCE: Department of Bioengineering, College of Engineering, University of Utah, Salt Lake City 84112.
CONTRACT NUMBER: HL 37046 (NHLBI)
SOURCE: BIOMATERIALS, (1988 Jan) 9 (1) 76-9. Ref: 44
Journal code: A4P; 8100316. ISSN: 0142-9612.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198805
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19970203
Entered Medline: 19880506

AB The assessment of blood damage and of the activation of the coagulation, complement and/or inflammatory systems by cardiovascular and extracorporeal **devices** is difficult at best. **Immunoassay methods** are now available for the **measurement** of many of the proteins, **enzymes** and peptides involved in coagulation, thrombosis, complement and inflammation. We present a long-range project and plan to develop an array of remote, on-line, semicontinuous immunosensors for selected coagulation proteins, based on fluoroimmunoassay principles. The free/bound separation step is performed **optically**. Excitation of fluorescence is performed via an evanescent wave produced by total internal reflection and waveguide optics. Fluorescence emission is collected only in the near field. Means to deliver fluorescently-**labelled** reagent and to modify the antigen-**antibody** binding constant are presented and discussed. The results of non-specific binding, plasma-blood

fluorescence, and blood compatibility are also discussed.

L20 ANSWER 40 OF 41 MEDLINE DUPLICATE 17
ACCESSION NUMBER: 89017926 MEDLINE
DOCUMENT NUMBER: 89017926 PubMed ID: 2845474
TITLE: [Enzyme immunoassay for rotavirus using nylon as the solid phase].
Enzimoinmunoanalisis para rotavirus con nylon como fase solida.
AUTHOR: Komaid J A; de Castagnaro N R
CORPORATE SOURCE: Instituto de Microbiologia, Facultad de Bioquimica, Universidad Nacional de Tucuman, San Miguel de Tucuman, Argentina.
SOURCE: REVISTA ARGENTINA DE MICROBIOLOGIA, (1987 Apr-Jun) 19 (2) 77-9.
Journal code: QZ8; 8002834. ISSN: 0325-7541.
PUB. COUNTRY: Argentina
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Spanish
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198811
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19900308
Entered Medline: 19881101

AB An **enzyme**-linked **immunoassay** (EIA) to **detect** Rotavirus in stools is described. **Antibodies** prepared in rabbits were immobilized on small nylon cubes as capture phase and **enzyme** conjugated **antibodies** were used to reveal the reaction. The conjugate was prepared with horseradish peroxidase by the Nakane periodate oxidation **method**. The solid phase consisted of 3 mm nylon cubes (66 CNL Du-cilo) previously submitted to partial acid hydrolysis to liberate amino-reactive groups. Glutaraldehyde was employed to couple the capturing **antibody** to the solid phase resulting in a covalent linkage between the gamma-globulin and the nylon. Phenylenediamine in citrate buffer pH 5.0 with 0.5% hydrogen peroxide was used as revealing substrate. EIA was performed as follows: stools watery extracts were incubated 1 h at 37 degrees C with **antibody**-treated nylon cubes, and then with **enzyme** conjugate, rinsed with distilled water and substrate-added. Samples developing colour, with **optical** density of at least 0.350 at 492 nm, were considered positive. The **method** showed good correlation with a commercial **kit**
.

L20 ANSWER 41 OF 41 JICST-EPlus COPYRIGHT 2001 JST
ACCESSION NUMBER: 870481862 JICST-EPlus
TITLE: Studies of fibrinopeptide A in various digestive

diseases by method of modified enzyme immunoassay.

AUTHOR: HASEGAWA TATSUO
CORPORATE SOURCE: Aichi Medical Univ.

SOURCE: Aichi Ika Daigaku Igakkai Zasshi (Journal of the Aichi Medical University Association), (1987) vol. 15, no. 1, pp. 7-24. Journal Code: Z0590A (Fig. 14, Tbl. 4, Ref. 77)
CODEN: AIDZAC; ISSN: 0301-0902
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
LANGUAGE: Japanese
STATUS: New

AB Fibrinopeptide A (FPA) is released from the A.ALPHA. chain of the fibrinogen which results in cleavage of Arg16-Gly17 bond by the limited proteolysis of thrombin. Therefore, in this initial step of fibrinogen conversion into fibrin, FPA in plasma is the first molecular marker in the blood coagulation system and able to **detect** the prethrombotic state. FPA **assay** was reported in 1971 by radio immunoassay (RIA) **method**. Recently, a competitive **enzyme** immunoassay (EIA) **method** for FPA was developed using a double **antibody** on a solid phase. The author modified a EIA **method** for FPA, using Asserachrom FPA (Diagnostica Stago) and Star tube (NUNC) with 200.MU.l volume. In this **method**, FPA was measured in patients with digestive cancers and other digestive diseases. Blood sampling was done by clean venipuncture and the two-syringe **method**. Blood was mixed with special anticoagulant (0.11M trisodium citrate, heparin 1000IU/ml and aplotinin 1TIU/ml) and centrifuged. Plasma was twice treated and absorbed by using bentonite. After centrifuging, the supernatant was incubated 1 hour at 37.DEG.C after adding anti-FPA. Star tube was coated overnight at 20.DEG.C by synthetic FPA (1.25.MU.g/ml, 200.MU.l) and then washed. Assay was added (200.MU.l) and incubated 2 hours at 20.DEG.C and washed. Then anti-IgG peroxidase was added and incubated 2 hours at 20.DEG.C and washed. Ortho-phenylenediamine (0.8mg/ml, 200.MU.l) was added and color developed for exactly 2 minutes, stopped by sulfuric acid, and then 1ml of distilled water was added. **Optical** density was carried out at 492nm. (1) This **method** is comparable to the RIA **kit** (IMCO), and offers good reproducibility. (2) FPA levels in normal adults were 1.65.+-.0.20ng/ml (n=53). Clean venipuncture is necessary using a 19 gauge needle without venous occlusion, but the FPA level was elevated after 5 minutes occlusion using 19 gauge needle and 3 minutes occlusion using 21 gauge needle in normal adults.(abridged author abst.)

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9 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2001 ACS
AN 1993:599155 CAPLUS
DN 119:199155
TI Method and **apparatus** for the rapid detection of analytes involving specific binding reactions and the use of light-attenuating magnetic particles
IN Slovacek, Rudolf E.; Harvey, Michael A.
PA USA
SO U.S., 9 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM G01N033-536
NCL 436536000
CC 9-5 (Biochemical Methods)
Section cross-reference(s): 15
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5242837	A	19930907	US 1990-632991	19901224

AB Disclosed are an **optical app.** and a uniaxial method for rapidly measuring spectroscopically labeled specific binding analytes in a reaction assay mixt. that contains unbound label without requiring the phys. sepn. of the unbound label from the reaction mixt. or sequential reagent addns. and incubations. The technique is equally applicable to measurements in serum or whole blood. The method involves the placement of labeled analyte complexes onto or adjacent to the surface of the **optically** transparent member of a sample **device** to form a specific **signal** generating layer; the use of a light-attenuating barrier on top of or as part of the labeled analyte complexes; and the detection of a **signal** radiation along the axis of excitation of the label. Various embodiments of the technique make use of light-attenuating particles. Diagrams of **devices** which can be employed in the methodol. are presented, including one with an attached or molded lens. A schematic of a front-faced fluormetric **app.** for obtaining the measurements is also shown. In one example, an assay mixt. contg. paramagnetic particle-immobilized goat **anti**-mouse **antibodies**, mouse **antibody** stds. [(5.0-320.0) x 10-12 M], and phycoerythrin-conjugated goat **anti**-mouse **antibody** was incubated and the paramagnetic particulate phase sepd., rinsed, deposited on the bottom of a com. 1/2 well tissue culture plate, and read with the fluorom. **app.** Other examples include e.g. a sandwich immunoassay for IgE in whole blood.

ST specific binding assay light attenuating particle; spectrochem analysis **app** specific binding assay; **antibody** detn fluorom paramagnetic particle; IgE detn fluorom magnetic particle

IT Immunoglobulins
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, uniaxial, magnetic particles and fluorometric **app.** in)

IT **Antibodies**
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, uniaxial, paramagnetic particles and fluorometric **app.** in)

IT **Fluorometers**
(for specific binding analyte uniaxial detn., light-attenuating magnetic particles in relation to)

IT Blood analysis
(for specific binding analytes, uniaxial, light-attenuating magnetic particles and **optical app.** in)

IT Spectrochemical analysis
(uniaxial, for specific binding analytes, light-attenuating magnetic particles in)

IT Immunoassay
(uniaxial, light-attenuating magnetic particles in)

IT Immunoglobulins
RL: ANT (Analyte); ANST (Analytical study)
(E, detn. of, uniaxial, magnetic particles and fluorometric **app.** in)

IT Analysis
(**app.**, for specific binding analyte uniaxial detn., light-attenuating magnetic particles in relation to)

ANSWER 7 OF 19 CAPLUS COPYRIGHT 2001 ACS

AN 2000:659796 CAPLUS

TI **Devices** and methods for **optically** identifying characteristics of materialobjects

IN Wunderman, Irwin; Smith, Adolph E.; Lumba, Vijay K.

PA USA

SO U.S., 44 pp.
CODEN: USXXAM

DT Patent

LA English

IC ICM G01N021-00

NCL 356073000

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6122042	A	20000919	US 1997-886561	19970701
PRAI US 1997-39308	P	19970207		

AB An **apparatus** for photometric analysis and/or identification of properties of a material object comprises a collection of light sources having substantially distinct wavelength envelopes and activated in a rapid sequence of distinct combinations. The **apparatus** comprises a collection of spatially distributed light detectors which detect radiation from the object and produce detected signals. A **signal processor** for controlling the light sources and analyzing the detected signals synchronizes the detected signals with the activation of the sequence of distinct combinations of the light sources to produce associated combinations of detected signals which are then analyzed to determine a physical property of the object and/or compared for similarity to previously detected signals from known objects. The photometric data may be combined and correlated with other measured data to enhance identification.

RE.CNT